The UNESCO COURIER

INTERVIEW WITH LEOPOLDO ZEA

NOVEMBER 1990

SACRED PLACES

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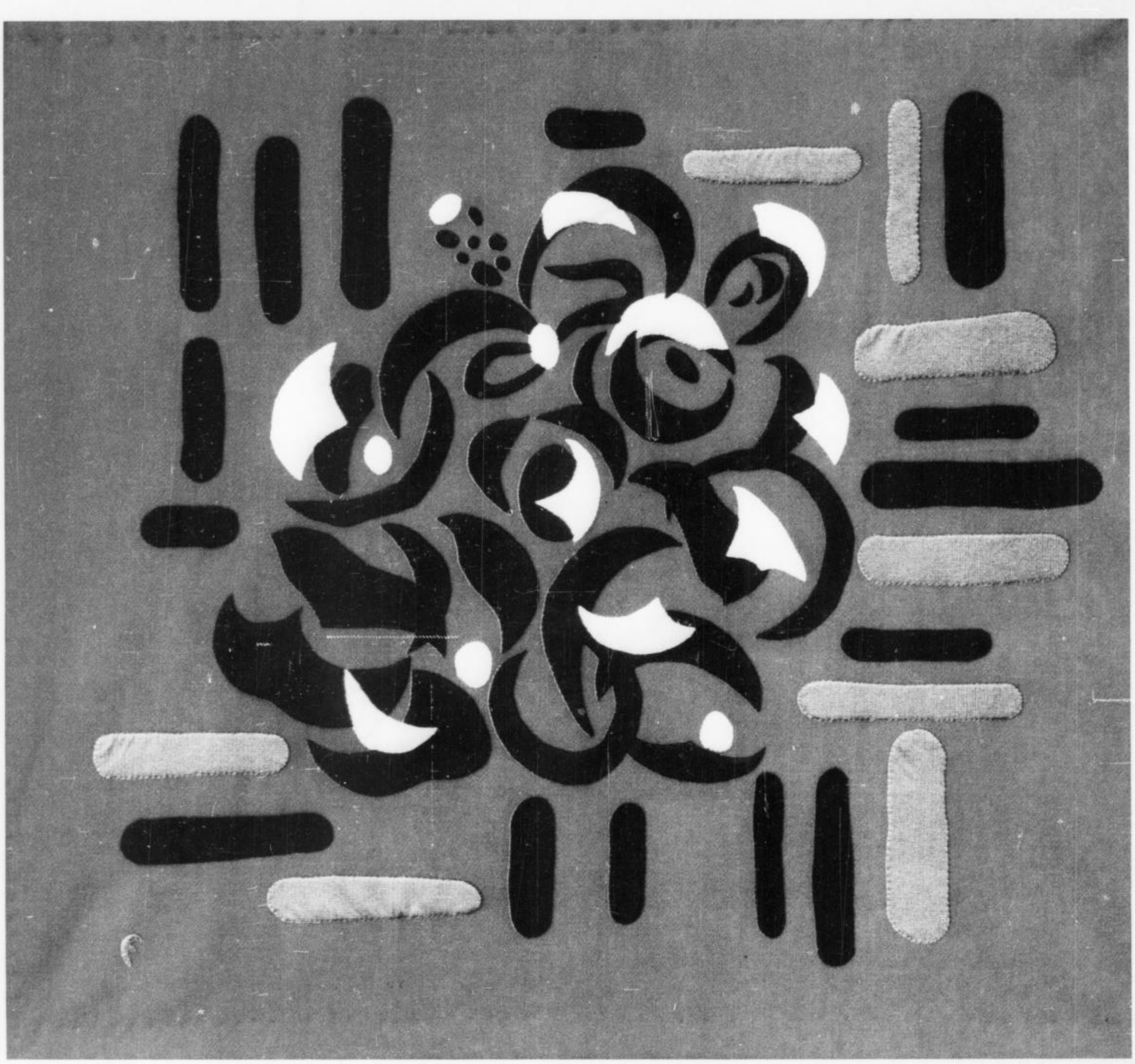
encounters

We invite readers to send us photographs to be considered for publication in this feature. Your photo should show a painting, a sculpture, piece of architecture or any other subject which seems to be an example of cross-fertilization between cultures. Alternatively, you could send us pictures of two works from different cultural backgrounds in which you see some striking connection or resemblance. Please add a short caption to all photographs.



QUEST

1977, tapestry (116 x 123 cm) by Anita Fréminé

Inspired by Arabic calligraphy, this work is made from felt cutouts sewn onto wool velvet, a technique suggested by tapestries from Benin. The French artist Jean Dubuffet wrote to Anita Fréminé: "You have created an art form which enables you to express yourself with complete spontaneity.... It opens up great new avenues of thought. I am impressed by the dramatic quality of your designs."

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Cover: the abbey church of Saint Ouen, Rouen, France (11th-16th century).

Back cover: dome of the Great Mosque of Cordoba, Spain (8th century).

Special consultant for this issue:

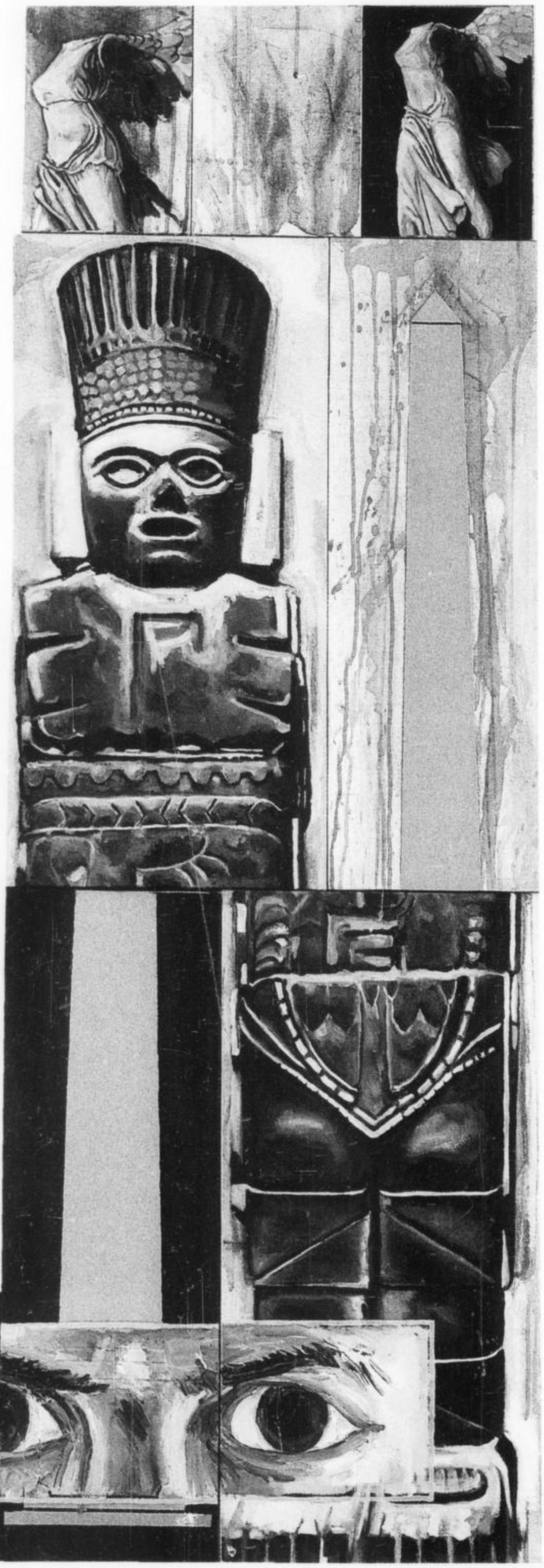
ALAIN ERLANDE-BRANDENBURG

Today there are no more unexplored continents, unknown seas or mysterious islands. But while we can overcome the physical barriers to exploration, the barriers of mutual ignorance between different peoples and cultures have in many cases still not been dismantled.

A modern Ulysses can voyage to the ends of the earth. But a different kind of Odyssey now beckons—an exploration of the world's many cultural landscapes, the ways of life of its different peoples and their outlook on the world in which they live.

It is such an Odyssey that the *Unesco Courier* proposes to its readers. Each month contributors of different nationalities provide from different cultural and professional standpoints an authoritative treatment of a theme of universal interest. The compass guiding this journey through the world's cultural landscapes is respect for human dignity.

I N T E R V I E W



Leopoldo Zea

In a rapidly changing world, is there still room for philosophical reflection?

— The historic pattern which came into being at the end of the Second World War was broken in 1989. The extraordinary changes which have taken place in Europe in recent months mark the end of the post-war era. We are now entering a period of intensive reflection, one in which Europe is being rebuilt and is seeking new structures, while other regions such as Latin America, Asia and Africa are having to envisage new relationships and new forms of integration with the rest of the world. More than ever philosophy must help shape our thinking about this unified world which is emerging from a divided world.

Many people think philosophy is useless and superfluous, and would even eliminate it from the educational syllabus.

— Philosophy has always tried to come to terms with reality. From Plato who sought to solve the problems of the Greek city-state, to St. Augustine who reflected on the relations between Christians and pagans, Kant who meditated on the situation of the individual in the modern world, and Hegel who wrote history in the light of the French Revolution, philosophy has always responded to the problems of a given time and place. It provides a possible answer to the questions people ask themselves. Without these questions it would have no purpose.

Could there be such a thing as a universal philosophy?

— The essence of philosophical thinking rests on the double principle of the *logos:* reason and the word. To reason is to apprehend the external world with a view to understanding it, while the word makes it possible to communicate these perceptions to others. It provides the capacity to understand and to make oneself understood through communication in order to expand and extend dialogue. This .novement is

Leopoldo Zea, portrait in oils by Armen Chaltikian, Moscow (1984).
Opposite page, *A Time to Remember* (1989), oil on canvas by the Mexican painter Diego Toledo.

The Mexican thinker Leopoldo Zea has developed a philosophy of history rooted in the Latin American experience but also firmly linked to major movements in world philosophy. Here he sets forth his ideas on the role philosophy can play in the current world situation.

this is not because the nature of philosophy has changed but because for the first time in the history of humanity problems have become universal. Since some problems affect all human beings in the same way, transcending their differences and the specificity of their experience, the responses of philosophy acquire universal relevance. But this is always a universality which takes reality as the starting point of an attempt to solve the problems of people in given situations.

What are the priorities of such universalist yet specific thinking?

– The first thing is to define modes of behaviour and of participation in a changing world. The planetary range of problems raises the question of the behaviour of peoples and nations, as well as that of individuals. We do not accept that others—blocs, governments, ideologies—take our decisions for us. This presupposes that we assume a large share of responsibility for what is done and that we choose new forms of participation. Instead of vertical relationships of domination and thus of dependence, there should be horizontal links of solidarity. Individuals, minorities, a variety of cultural entities, increasingly wish for participation.

Everyone wants to participate in the redefinition of the world that is emerging, one in which it will not be enough to speak, as today, of a "common European home". We know now that we live in one world, that our planet is for the first time truly universal. It is the common home of humanity that we should be thinking about.

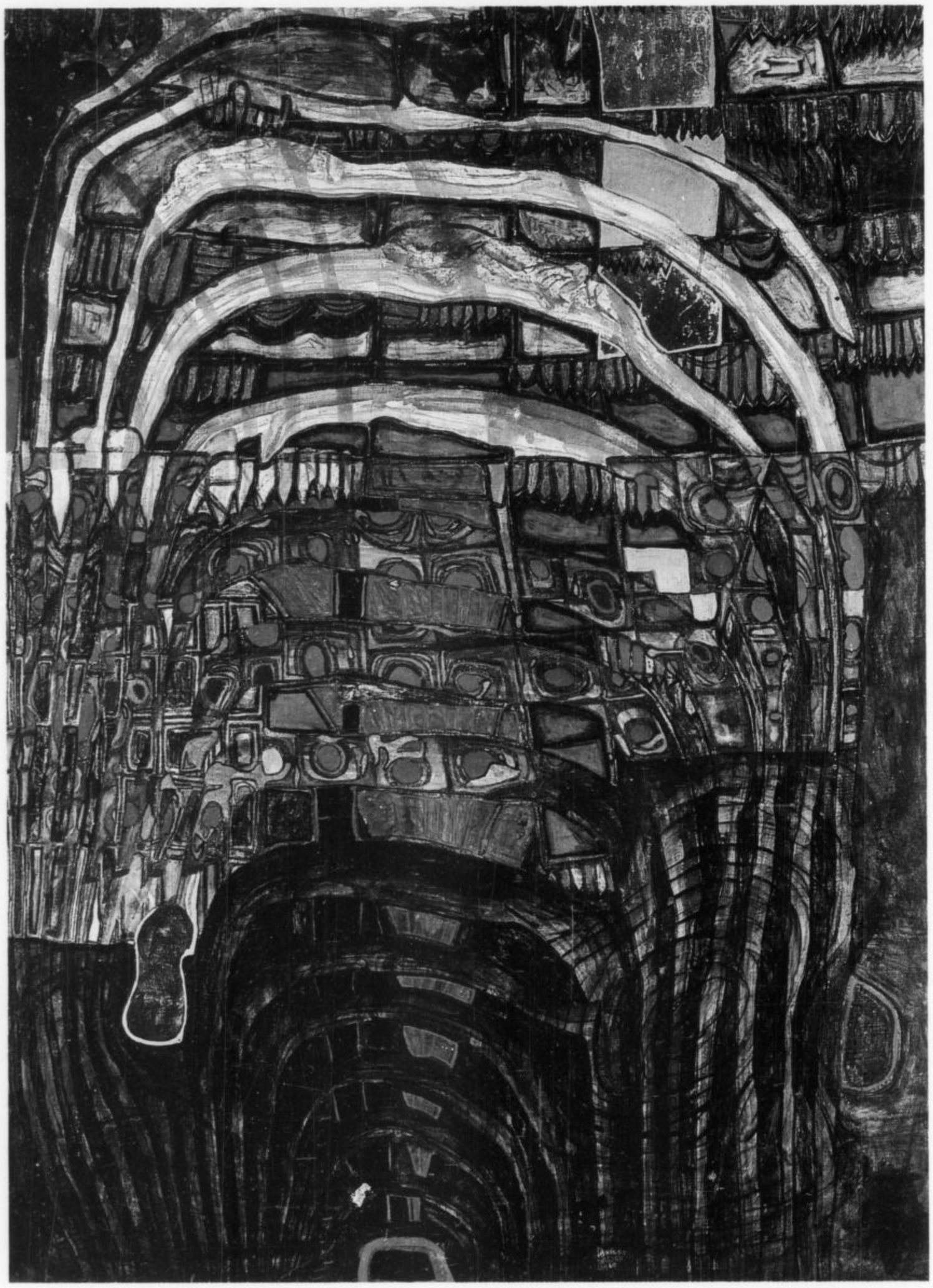
In this universalist context, is philosophy as a discipline taking new directions?

– In many countries the tide is turning against the idea that the instrument of philosophy—logic—should actually be its purpose. It is now accepted that logic is only a means of

the starting point for any talk of universality, for philosophical truths are not immediately universal. They only become so to the extent that they are accessible to others. The universality of philosophy depends on the capacity of some to communicate and of others to understand.

In 1986, the World Congress of Philosophy held at Montreal (Canada), reached the conclusion that the universality of philosophy depended on the capacity of human beings to make reason an instrument for communication, dialogue and the exchange of experience. It was also said that there was no universal philosophy but only specific philosophies which become universal to the extent that they are understood by others and make it possible to understand others.

If there is talk nowadays of a truly universal philosophy,



Left, *Atomic Explosion with Green Rain* (1960-1962), mixed media on jute by the Austrian artist Hundertwasser (Friedrich Stowasser). Right, *Astronomer Observing the Sky*, illustration from the *Selenographia* (atlas of the Moon) compiled by the German astronomer Johannes Hevelius (1611-1687).

knowing with a view to acting. The more refined this instrumental logic becomes, the better. But the essential thing is to achieve knowledge of reality in order to change it. This is the crux of the matter. Logic should never be considered as in itself the goal of philosophy.

It is thus possible to talk of a return to the original preoccupations of philosophy: how to know reality and act on it. The Greek philosophers never troubled to find out whether their philosophy was universal. And yet it was universal to the extent that it produced answers which proved to be valid for others, in analogous circumstances.

This new philosophical "realism" clearly responds to ethical preoccupations. How can ethics and pragmatism be reconciled?

— Many philosophers have abandoned the neutral analysis of moral language and are dissatisfied with the abstract constructions which a number of their contemporaries have tried to make. What matters now, as I have said, are the specific problems of human beings. Philosophers have a role to play in criticizing the myths of contemporary society, identifying ethical problems, defining fundamental principles, and reframing essential questions in the current context.

Ethical reflection has a bearing on the problems of man and society. Philosophers are concerned with medical ethics, nuclear dissuasion, democracy and economic justice. In a democratic society, moral thinking should be shared as widely as possible. In view of the growing interdependence of the world today, a kind of ethical consensus must be established between all peoples who must share a common planetary destiny.

Is it possible to speak of an ethico-philosophical concern for the environment?

— According to the historian Arnold Toynbee, the West has always considered people, like plants and animals, as objects for exploitation. This approach can be seen in the attitude of the developed countries, which want to impose their ecological rules on the Third World without regard for the interests of those who live there. There is an attempt to halt the destruction of nature by using the same authority that once encouraged this destruction—without showing

concern for the human beings who are thereby condemned to underdevelopment in the name of the safeguarding of the environment. Only an ethical consensus can permit a re-adjustment which will not condemn certain peoples to irremediable poverty. Philosophy can contribute to this universal readjustment and thereby help pave the way for an agreement about the sharing of acquired wealth.

Is it possible to think of applied philosophy as we think of applied science?

— Philosophy is oriented towards action—Marx was not alone in adumbrating this. Thinking is important, but so is acting in conformity with what one thinks. Philosophy is not an exercise in abstraction which stops at words, for if I have a problem and think about it, it is in order to solve that problem and that means taking action. Moreover, the very fact of thinking presupposes that one has the capacity to direct action.

In Latin America there is a long philosophical tradition of concern for the problems of the region. As early as 1842, in Montevideo (Uruguay), the Argentine thinker Juan Bautista Alberdi envisaged a specifically American enterprise of philosophical reflection rooted in the "necessities" of the continent. "What problems is America called upon to ask itself and to solve at this moment?" he asked. The answer was the problems of freedom, fundamental rights, and the social and political order. Philosophy should thus be "synthetic and organic in its method, positive and realistic in its action, republican in its spirit and purpose". This practical knowledge presupposed a certain degree of participation in social and political life on the part of the philosopher. "It is the duty of every decent man," Alberdi concluded, "who, through his condition or his capacity, can exercise any influence whatsoever, to be involved in the affairs of his country."

Does this mean that philosophy should be more "operational" in developing countries?

— Our peoples have enormous problems to solve—problems of identity and dependence. Philosophy is a unique tool with which to approach these problems and try to solve them. But we should not only use our own criteria to define them. We must be open to the rest of the world.

In this sense, the dialogue between North and South must be kept going in order to define what we call "the ethics of development". Treatment of the ethical questions raised by development has become indispensable.

Did you have this in mind in the thoughts on universal history set forth in your recent book **Discurso desde la marginación y la barbarie** *("Discourse on Marginality and Barbarity")?*

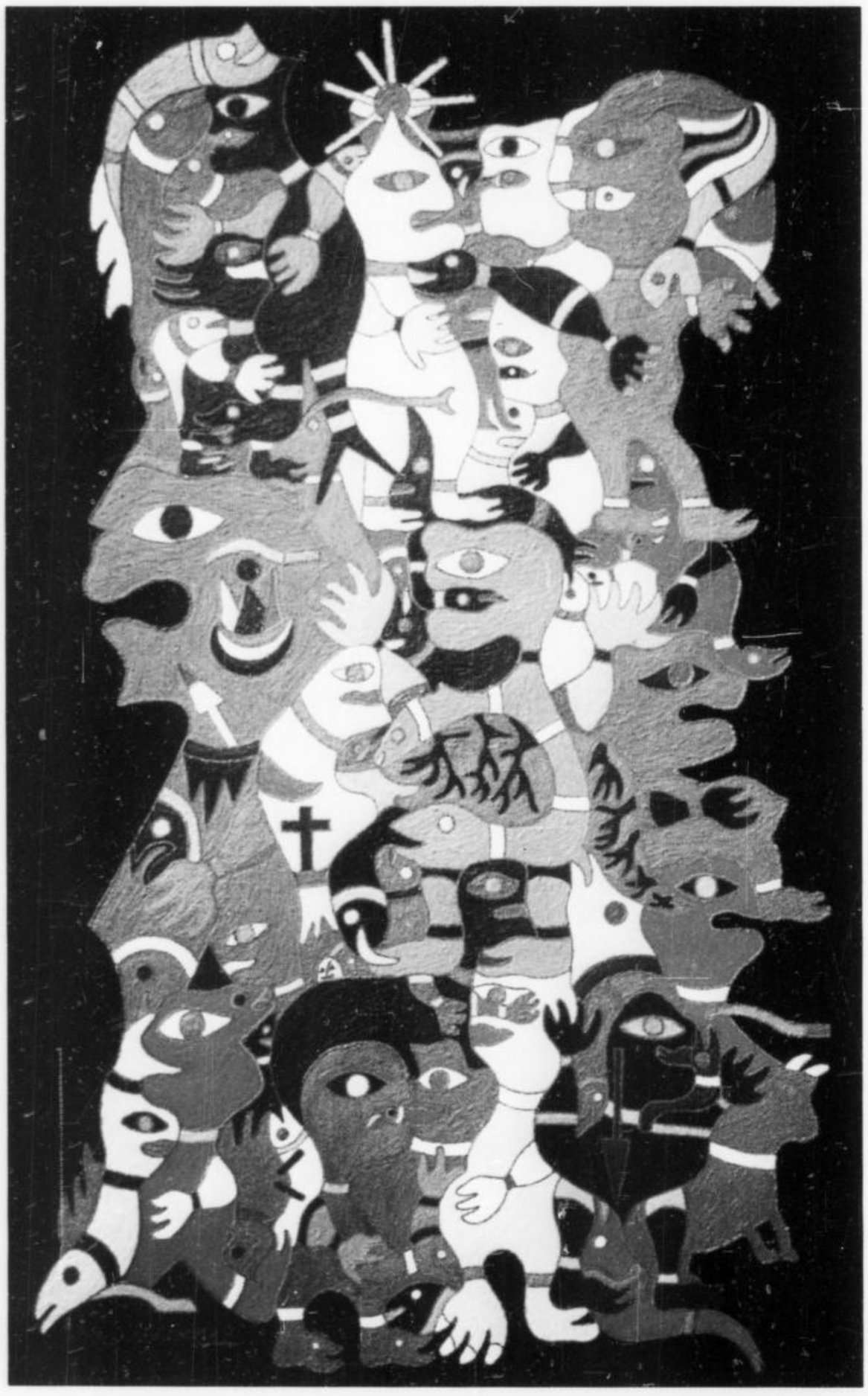
— Greater knowledge of other world regions can help us to become aware of the state of dependence in which we live, to understand what constitutes our "originality", and our situation in relation to others. If we began by imitating foreign models, it was to "instrumentalize" European philosophy and to make it serve our needs. We did this deliberately. It would have been absurd to deny that Western culture has created conceptual tools that can be applied to our situation. We have also assimilated the dialectical dimension of the past, accepting the good and the bad in our history, keeping what we considered to be valuable and modifying what in our eyes was not. I think that one of the responsibilities of Latin American philosophers is to translate and adapt to our own situation what comes to us from elsewhere and can nevertheless be useful to us.

However, Latin America has obstinately closed its eyes to the reality of its own situation, and has even rejected its indigenous or Iberian past, which it has affected to ignore on

the grounds that it is inappropriate and alien. But to ignore one's history is to deprive oneself of an experience without which it is impossible to achieve maturity, responsibility.

Even so, Latin American thought has not restricted itself to the problems of the region; it has contributed to a specifically American philosophy, to a perception of reality and world problems from an American standpoint. *Discurso desde la marginación y la barbarie* is intended to be a book about the philosophy of history written from a perspective which is not European or "Eurocentrist".

Why should philosophy not give itself a "centre of awareness" other than Europe? This is what I have done, interpreting, not the history of America alone, but also that of the non-American peoples. I deliberately chose European peoples on the sidelines of history, "barbarians" according to the classic notion, such as Spain and Portugal at the western extremity of Europe, and Russia at the other end. It is interesting to see how these historically marginal peoples are today playing an important role in the recomposition of the world.



In this unified and interdependent world we can also see an awakening of particularism, a demand for national identities that have been repressed, and a growing number of ethnic rivalries.

— It is clear that the conquest of freedom carries risks and should be subjected to methodical questioning. How far can freedom go? The world must avoid atomization, the "tribalization" to which nationalism or exacerbated regionalism may lead. If we encourage forms of behaviour and modes of participation based on respect for others to the extent that others respect us, it is possible to imagine the coming of a kind of world federation in which relations would be horizontal, interdependent, in which there would be a common effort to find a solution to common problems. If I understand my neighbour and how he differs from me, and if he does likewise, then we can discuss, collaborate, and reach agreement without losing an identity which we could never reject, and build this "common home of man" in which we are condemned to live together.

Furthermore, in America we possess an experience which we can offer to the world: an aptitude for ethnic and cultural intermingling *(mestizaje)*. The Spanish bequeathed to us an extraordinary sense of the conviviality between peoples, religions and cultures, but it is America itself which has been the great melting pot. This "cosmic race", on whose behalf the Mexican writer José Vasconcelos (1882-1959) spoke out, bears a message of integration and intermingling which xenophobes and nationalists of all origins would do well to ponder. Philosophy has a clear and precise task to perform, to avoid the creation of impermeable blocs, self-sufficient and self-satisfied, in the new spaces of freedom.

If one wall has fallen—the Berlin wall which prevented some people from getting out—let's make sure that new walls are not built to prevent others from getting in—the customs barriers which developed countries raise in defence of their well-being.

How does the resurgence of religious feelings fit into a world which should be striving towards the "ethical consensus" you advocate?

— Religion, to the extent that it helps me to understand others, and others to understand me, can give an important spiritual dimension to the philosopher's task. What should be rejected is the religion that locks you in the closed world of a given faith, without concession or tolerance towards other beliefs, a faith which leads to religious conflicts, to those "holy wars" from which the history of humanity seemed to have found deliverance.

Just as philosophy sometimes turns to ideology and acts as a brake on thought, we must avoid the obstacle that religious intransigence may constitute. The key word is tolerance. The differences of others must be respected so that they will give respect in return.

In a world which is tending to become one, and in which

Right, *Tonantzin-Guadalupe* (1988), mixed media on paper by the Mexican artist Dulce Maria Nuñez. Opposite page, *Five Hundred Years* (1989), oil on canvas by the Portuguese artist Joaquim Antunes.

problems are global, it is important to be able to reaffirm our differences, what distinguishes us from one another, while respecting difference, what is not "equal" to us. We should not forget that equality, not to say egalitarianism, can also become a means of domination. The important thing today is to be able to be "different" in equality, for everyone to be equal while being different.

How do you see freedom in this context?

— Freedom is a value which can only exist in relation to specific individuals. Otherwise it becomes an abstraction, and it is worth recalling that freedom does not exist in the abstract. It would be impossible to defend the idea of freedom as an absolute, that is, ultimately, an irresponsible freedom. We must fight for freedom, but a responsible freedom, aware of its limits.

The free man must be responsible. Man does not have a right to be free but the duty to be so; that is to be responsible. The exercise of freedom implies a responsibility which is situated on the level of a moral obligation. Freedom is a commitment. I am free but I also have a commitment to the freedom of others.

This complex relationship between commitment, responsibility and freedom, which is a recurrent theme of your philosophical work, is based on the reciprocal relationship between man and society. Is there not a great temptation to propose "models" of freedom to regulate these relations?

— It would be impossible to talk of models in this context, since there can be neither models nor archetypes of freedom. Models eventually impose new subordinations. To accept a model is to accept a constraint. ■

THE SACRED

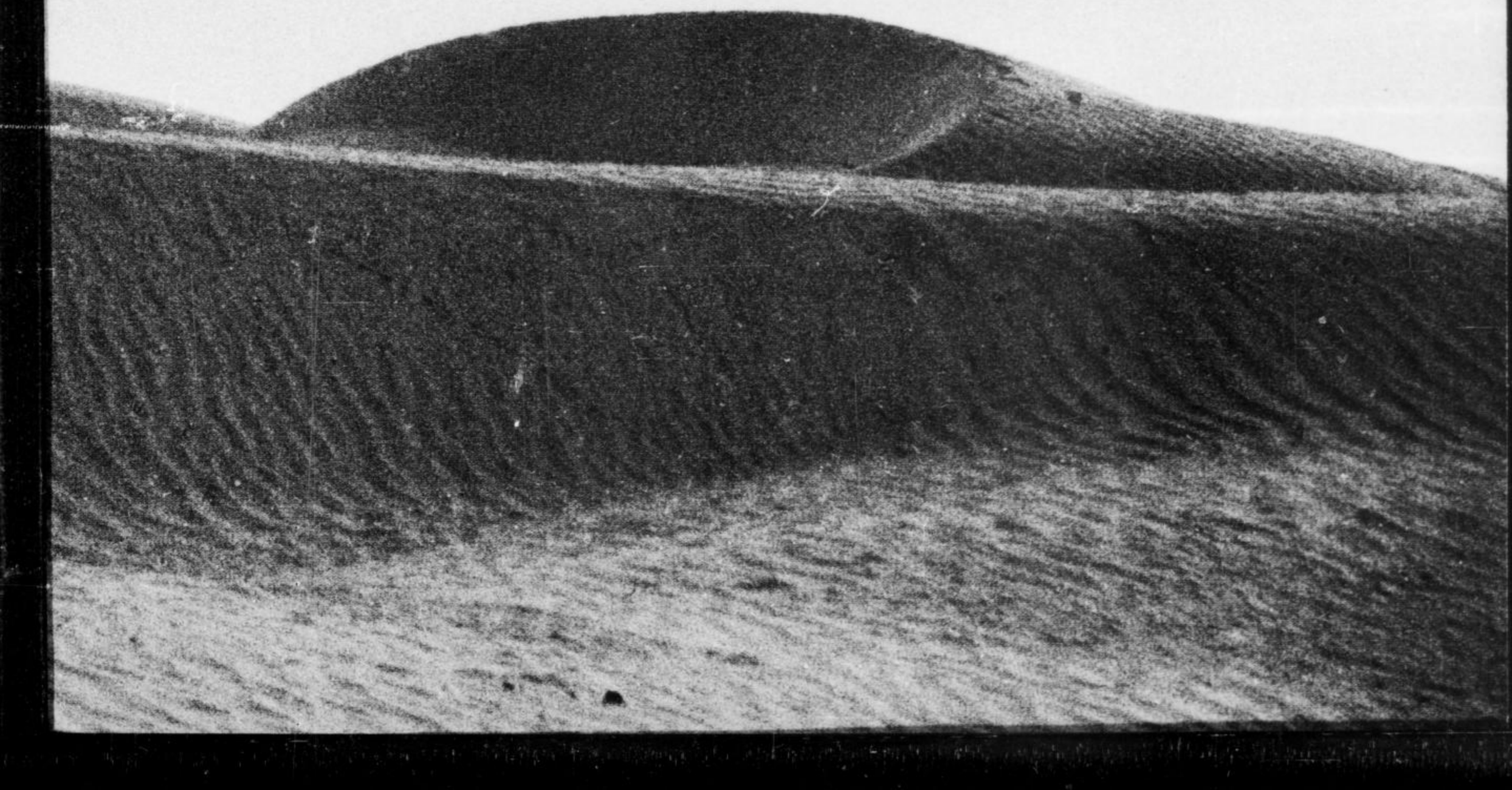
BY JUAN PLAZAOLA ARTOLA

THE two essential characteristics of the sacred are *separation* and *inviolability*. The sacred is regarded as separate because it is inviolable. When it is touched, it is profaned.

The sacred is a force which can be beneficial or malign. By virtue of the superhuman powers vested in it, it may in some circumstances cause dire peril, and even resemble a malediction. Essentially, however, it is a creative, fertile, fortifying element which has the virtue of *consecrating* all that comes near to it. It is not only a value superior to others: it is invested with plenitude and dignity. Like everything divine and transcendent, it can only be apprehended by way of analogy. The sacred shines with an absolute glory which dims all other values and shows up their obscurity and inadequacies—in a word, their profanity.

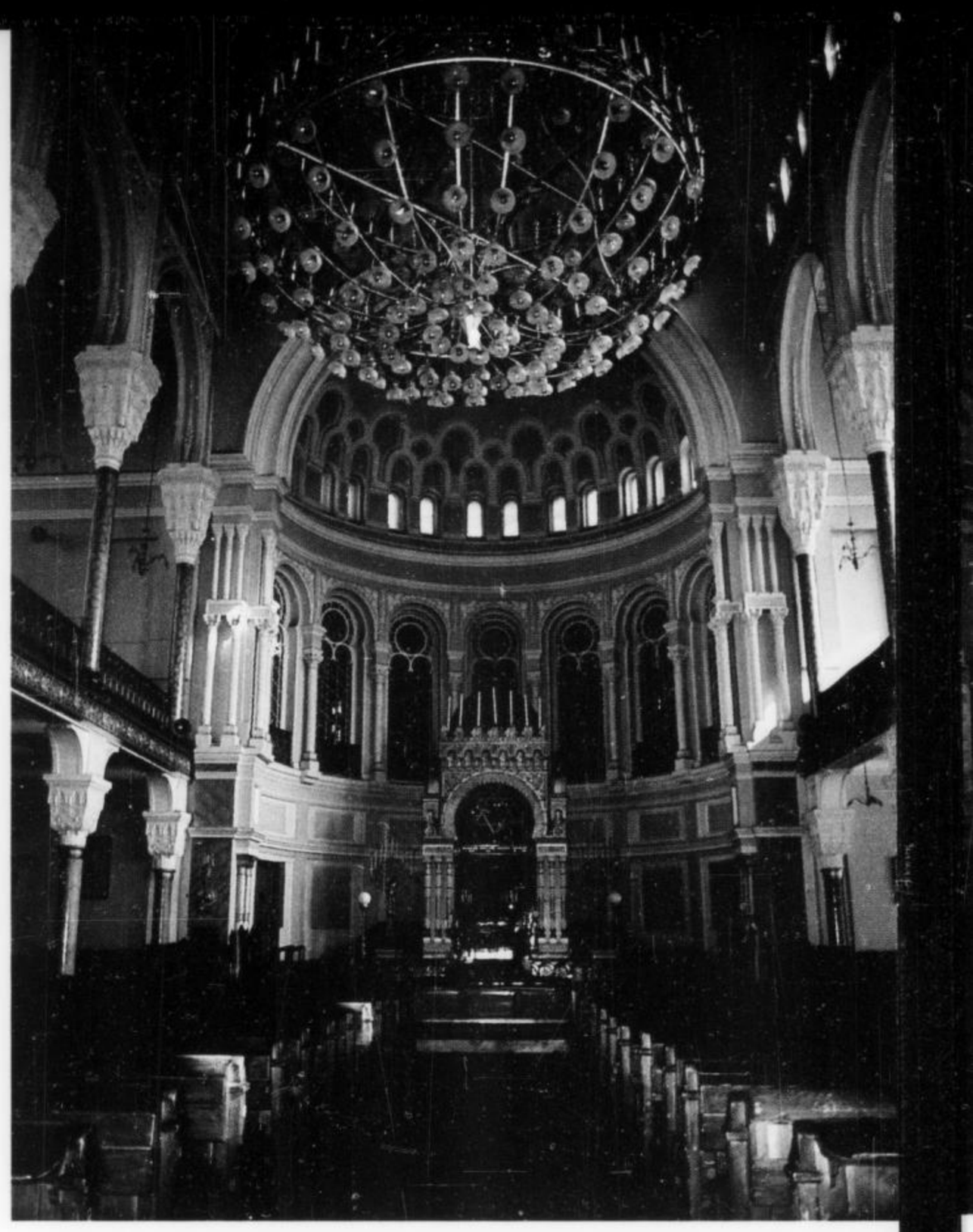
Direct perception of the sacred is impossible except in the mystery of faith, but people feel it as a tangible presence and experience its manifestations in their lives. To apprehend the sacred, we must call on the concept of mystery.

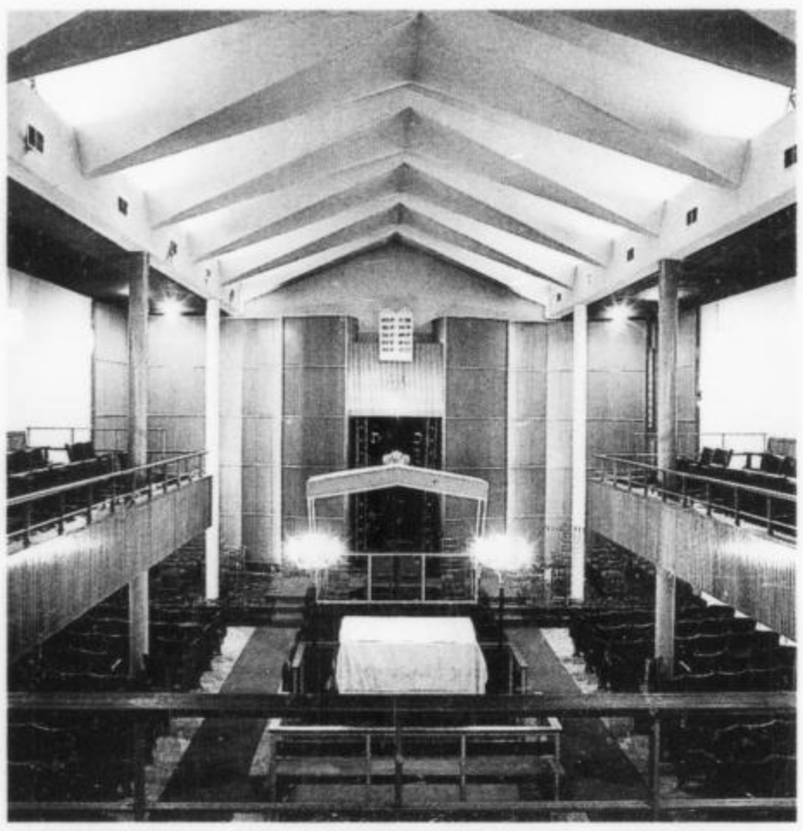
In the presence of the sacred, people are emotionally torn between fascination and panic, ecstasy and terror, as the German theologian Rudolf Otto (1860-1937) described in his classic work *The Idea of the Holy*. The *divine* is "totally other", a mystery that simultaneously attracts and terrifies. Its proximity awakens a feeling of dread quite unlike the reaction caused by "natural" dangers, a "terrified stupor" before that which has nothing in common with what we are. This dreadful mystery is also fascinating; it exercises an irresistible attraction. All creatures tremble before it and feel the need to merge with it. They are moved by a force of attraction of a different order from that exercised on us by the blandishments and beauties of the world. These

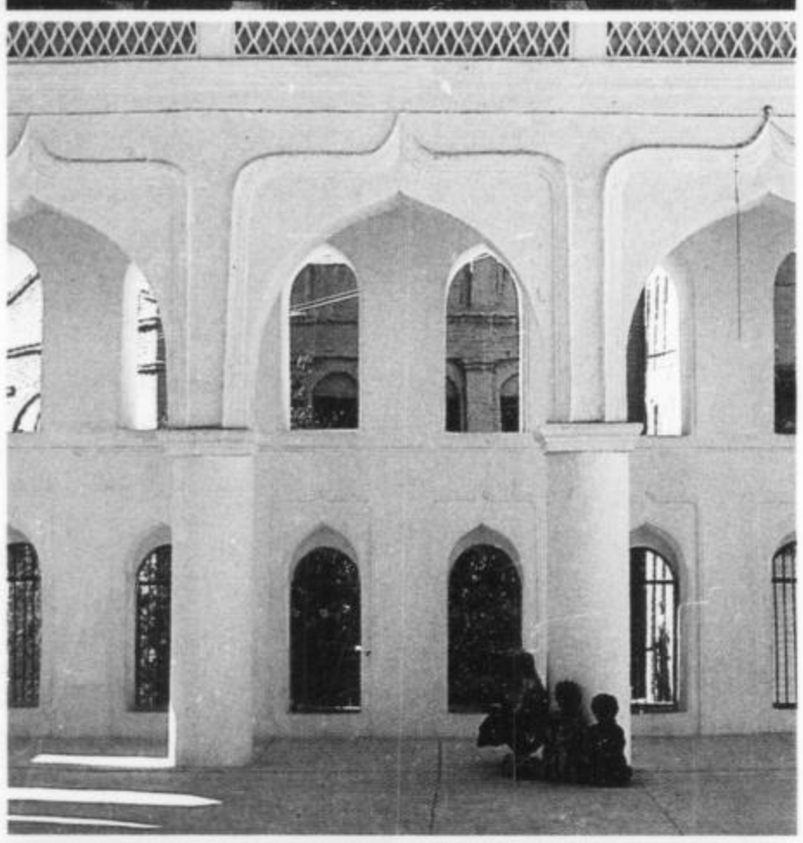


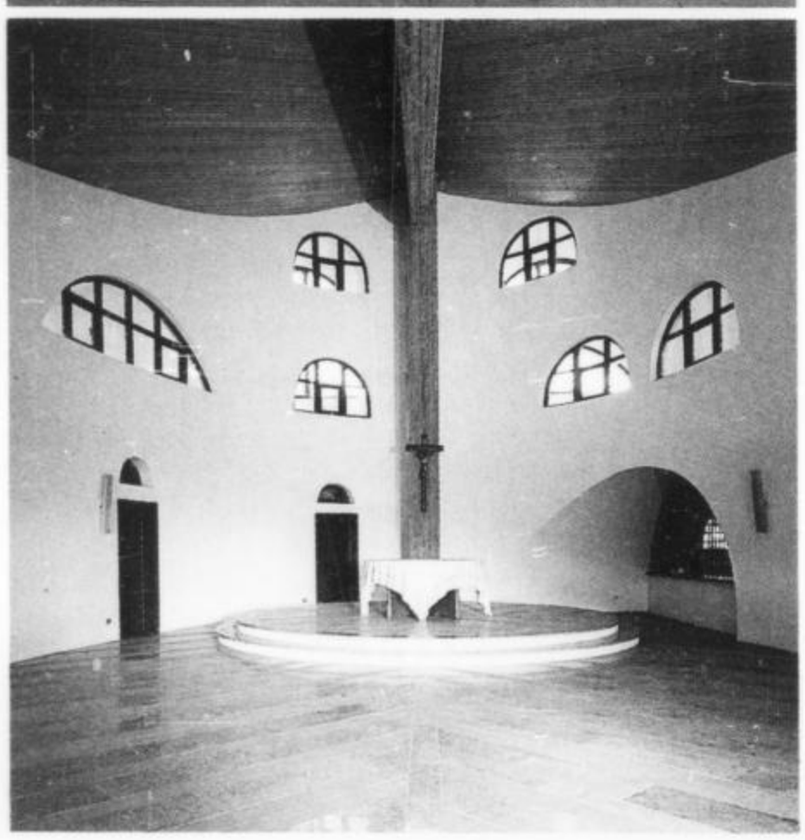
Opposite, from left to right:
The Leningrad Synagogue (1893), which can accommodate a congregation of 1,200.
The Great Mosque of Cordoba, Spain, founded by emir Abd ar-Rahman I in 785-788.
Church of an Eastern Orthodox monastery in the Fruska Gora region of Yugoslavia (16th century).

Below, from top to bottom:
The Don Isaac Abravanel Synagogue, Paris (1962).
The Mosque of al-Mikhdar at Tarim, Republic of Yemen (19th century).
Chapel of a monastery at Aosta, Italy (1989).









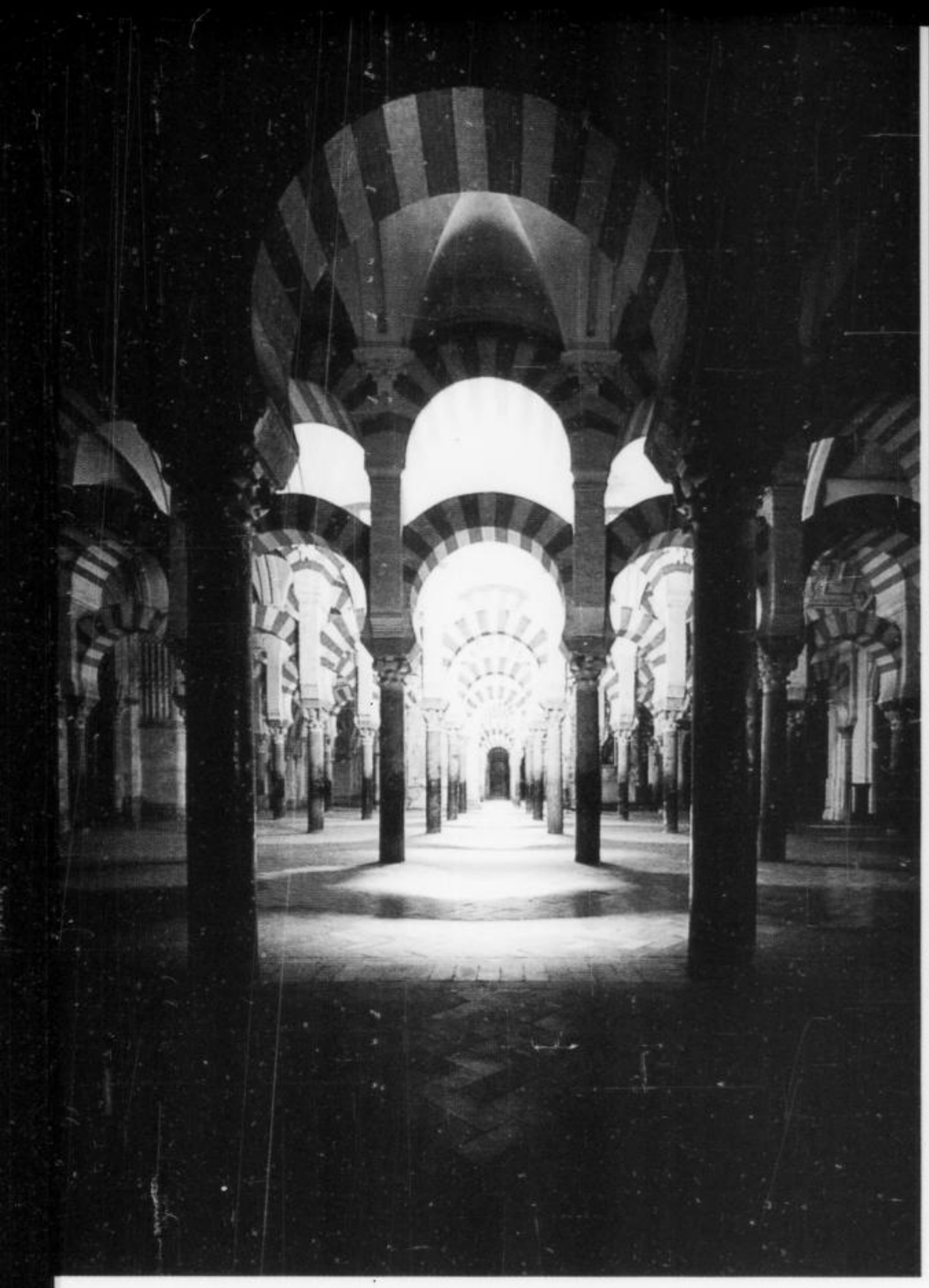
ambivalent feelings, combined with an impression of absolute otherness, constitute the sense of the sacred.

In ancient religions, separation and inviolability are expressed by prohibitions and taboos which surround and protect all that is sacred. The monotheistic religions later superimposed on these two notions various subtleties of meaning which have left their mark on art and architecture.

As far as Judaism is concerned, the Old Testament nowhere proposes a theory of the sacred. In the Bible everything related to Yahweh, the God of Israel, and His worship is sacred. Some texts emphasize the *terrible* aspect of the figure of the Eternal, but the image of a God of love and mercy gradually takes shape in the Prophets. This God is still remote and inaccessible, and the chosen people must be purified to have access to Him.

Islam also imposes prohibitions, and decrees that the places consecrated by the presence of God and His manifestations are *haram* (inviolable). The Ka'aba, the territory of Mecca and Medina, the rock of Jerusalem and the tomb of Abraham in the valley of the Hebron are forbidden to infidels and only accessible to Muslims purified by the faith and ablutions.

In Christianity, terror in face of the ineffable is replaced by the mystery of charity: "God is love". And since the Word was made flesh, people can no longer believe that God is radically different from themselves. What the Christian sense of the sacred isolates it lifts up to God, ennobles, and invests with a supreme significance.



The sacred in Christianity implies communion rather than prohibition.

A distinction is usually made between *religious* and *sacred* art. A decorative or iconographic work of art (a painting or a sculpture) may be called *religious* but does not merit the epithet *sacred* if it only expresses the personal feelings of the artist. However, since places of worship usually have a collective vocation and are dedicated to the celebration of the mysteries, all or almost all religious buildings can be classified as sacred architecture.

The purpose of sacred architecture is to evoke a mystery and to facilitate the various forms of community worship which are related to it. Because the sense of the sacred and the rituals through which it is celebrated differ from one religion to another, sacred architecture—a synthesis of expressive and functional forms—also differs.

The Temple in Jerusalem might be considered the only example of truly sacred architecture in Judaism. In it the worship of Yahweh was strictly regulated and hierarchized, together with all the mysteries and prohibitions relating to the sacred. The synagogue was originally only a place where believers met to pray, read, and listen to sermons, but it eventually came to be considered as sacred, especially after the destruction of the Temple.

The simplicity of Islamic worship, based on a belief in the absolute transcendence of Allah, led to a kind of architecture whose functions can easily be adapted to pre-existing or traditional forms. Basically, the mosque is a wall (*qibla*) with a *mihrab,* a niche facing in the direction of Mecca, around which a wide variety of architectural features can be disposed. This explains the extraordinary diversity of mosque architecture in the different Islamic countries.

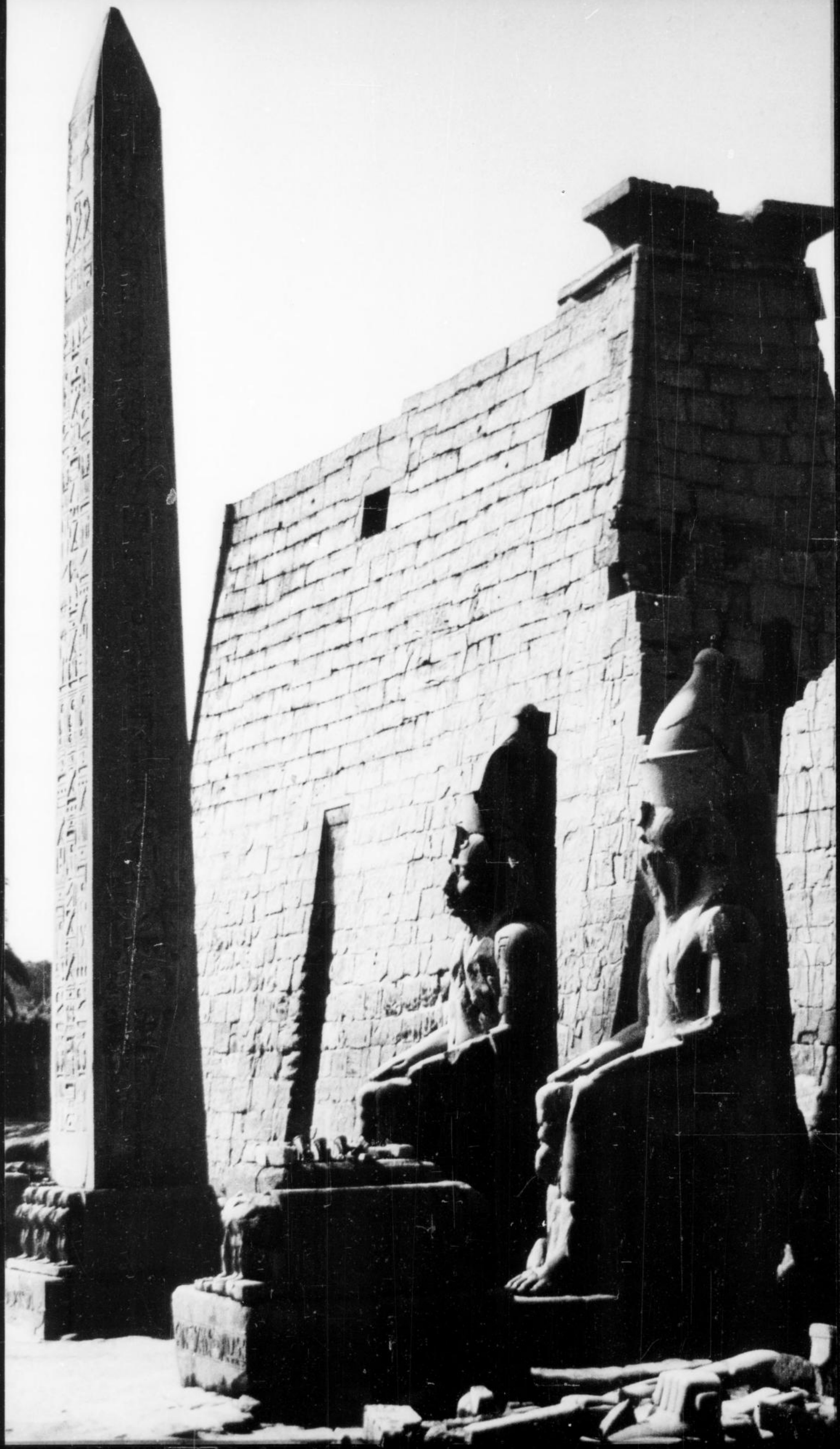
For the first Christians, the only necessary expression of the sacred was in the ceremony that Christ expressly enjoined them to celebrate, the sacrament of the Eucharist, for which no temple or specifically defined space were required. The home of any believer could be used for "the breaking of bread". Gradually the largest of these dwellings came to be used for gatherings of the faithful. Christians rejected the term temple as too closely associated with pagan cults and gave the name *ekklesia,* the Greek word meaning assembly, to the building that was used for this kind of meeting.

Although Christian churches are quite different from pagan temples or the Temple of the Jews, they have much in common with synagogues, starting with the original meaning of a place for assembly. But whereas the God of the Old Testament had given precise instructions for the way in which the Temple and the Ark of the Covenant were to be constructed, Christ's teaching contains nothing of the kind. Christ simply said: "where two or three are gathered together in my name, I am with them", and "Do this in remembrance of me". Christian worship is encapsulated in these two phrases: a *meeting* is held in *commemoration.* Everything else is ancillary. ■

JUAN PLAZAOLA ARTOLA, of Spain, is a former rector of the Centre of University and Technical Studies at Guipúzcoa, San Sebastián, where he is currently professor of the history of art. His publications include an "Introduction to Aesthetics" (1973), "The Future of Sacred Art" (1973) and "Models and Theories of the History of Art" (1988).

Ancient Egypt

In the temples where he dwelt on Earth, the god Amon was called upon to maintain the equilibrium of the universe



Precincts of eternity

BY JEAN-CLAUDE GOLVIN

THE sites of Pharaonic temples were chosen in accordance with a tradition whose origins are sometimes lost in the mists of time. The great temple of Amon-Re at Karnak, for instance, marked the spot where the first mound emerged from the waters of *noun* (the primordial ocean), a pointed knoll which the god Amon caused to rise at the beginning of the world and around which he continued to shape his creation. The very name of the god (*Imm*, Amon) means "the hidden one", in other words, he who might assume any shape or size and who was present in the inmost depths of all creatures and all the material world.

The Egyptians thought, however, that the forces of evil, over which the god alone could triumph, could not be defeated once and for all. It was therefore vital to encourage Amon to fight them constantly and regularly to perform anew his act of creation. Such was the underlying significance of the devotions offered to him in all the temples. Through suitable offerings, made at the proper times and under ritual conditions laid down in detail, an attempt was made to keep the god in the frame of mind needed to ensure that the universe remained in a state of balance.

A tiny part of the divine substance was concentrated in a small gold statuette barely more than a cubit high (52 cm), placed in a kind of monolithic granite shrine (the *naos*) capped by a pyramidal form and provided with wooden shutters which could be opened. The Egyptian temple was not a place of worship where large numbers of the faithful could gather, but god's home on Earth, a dark and mysterious dwelling accessible only to officiating priests and to the first among them, the Pharaoh, who enjoyed the rare privilege of being able to gaze upon the god's face.

The most important part of the temple, where the tremendous energy needed to uphold creation (the divine statuette) was stored, was also, paradoxically, the smallest part. The successive monumental encasements in which it was set were intended to protect it from any aggression or harmful influence. The statuette and the *naos*, which served as the first encasement, were located in a small dark chamber, the sanctuary. They were flanked by the private apartments of the god which possessed all the attributes of a sumptuous palace and where he lived and reigned like an earthly king. The only function of the priests was to be his faithful servants.

The god was worshipped daily just as though he were a person of flesh and blood. Ritual acts, chants and prayers accompanied the various parts of this recurring ceremonial. In the morning the officiating priest broke the clay seal affixed at the end of the previous day. He thus released the cord that held the wooden shutters closed, affording access to the divine statue. He then proceeded to wash and dress the god and to ensure throughout the day that the necessary offerings of food were made to him. The god was believed to feast on the essence of these provisions which were subsequently sent to the royal altars and then to the

Low-relief carving in the temple of queen Hatshepsut, Karnak, shows the ruler kneeling as she moulds the first brick of the edifice. Right, artist's reconstruction of the great temple of Amon-Re, Karnak. Left, the pylon erected by Ramses II at the temple of Amon-Re, Luxor. Before it are two colossal statues of the royal dynasty and an obelisk.

priests, for whom more material forms of satisfaction were appropriate.

Many other temples in Egypt, including the famous temple at Luxor, were dedicated to Amon. How could the same god, who was proclaimed to be unique in hymns and prayers, be in several different places at the same instant? To the Egyptians there was no contradiction here. In reality, the statues of Amon placed in the heart of the sanctuaries served simply as points of "concentration" and "emergence" for this omnipresent god.

Some cities also honoured other gods, but their temples have not been so well preserved. The great sanctuary of Heliopolis, dedicated to Re, has been almost entirely destroyed, while those of Ptah at Memphis or Thoth at Hermopolis, which have greatly suffered from erosion, cannot compete with the impressive ruins at Karnak.

Karnak, a dynastic temple

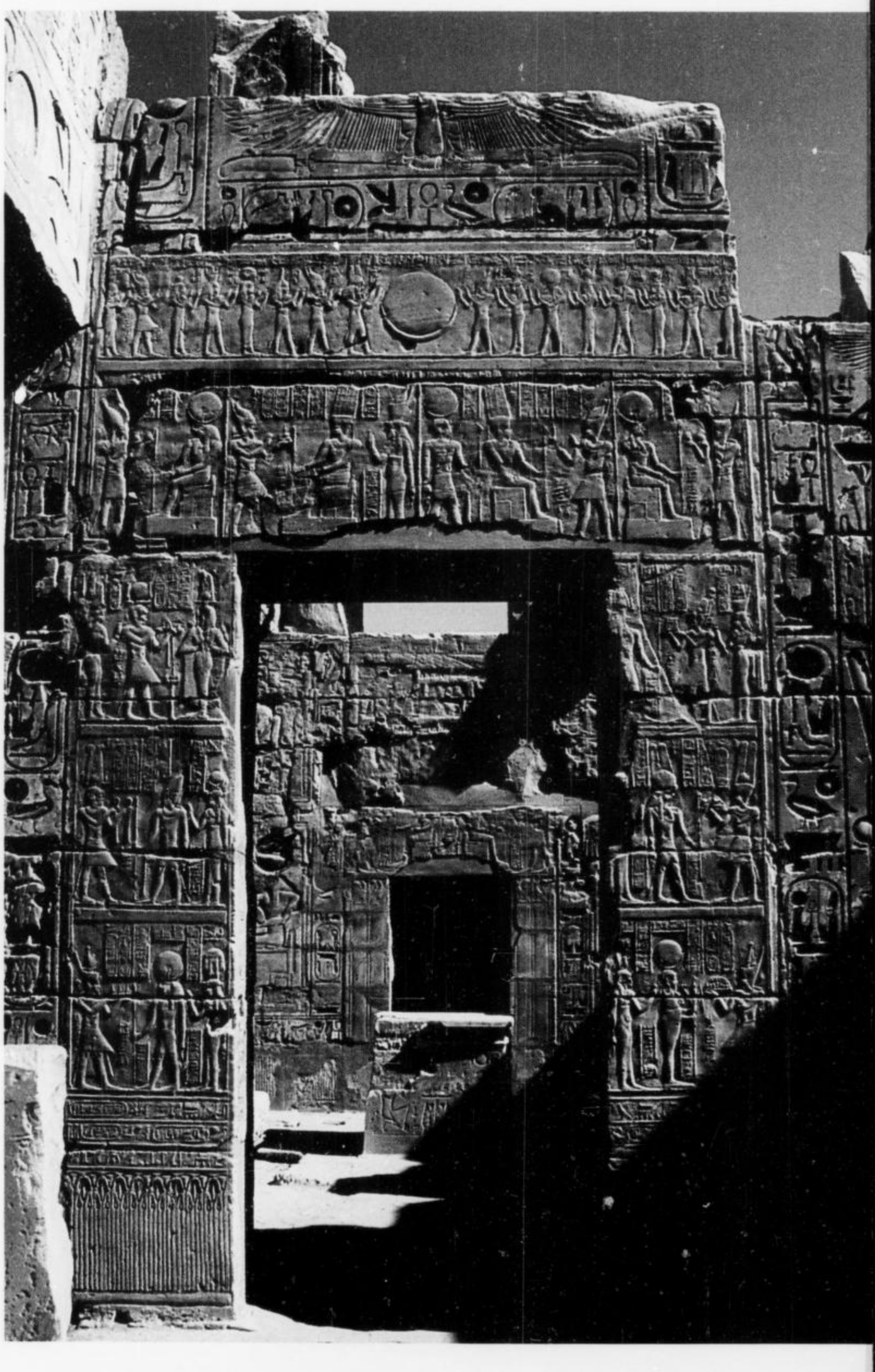
The temple of Amon-Re at Karnak was probably founded in the twentieth century BC, during the reign of Sesostris I (1971-1929 BC). It steadily grew in size, ending up as a colossal complex of buildings forming a four-sided figure measuring 600 metres from corner to corner. It assumed such proportions and underwent so many metamorphoses because it became the great dynastic temple of Egypt to which each Pharaoh came to find the source of his legitimacy. Hardly had he assumed office than the new sovereign had a building put up for his divine father, Amon, in order to secure further benefits from him. A system of give-and-take was thus established between the god and the king, which underpinned the country's stability. Each monument, which was first and foremost an offering, might very well be destroyed in the next reign by a king who wished in his turn to perform a notable act. The dismantled stones were used again in new monuments.

Karnak is thus the product of a long history of destructions, additions and alterations, and its foundations and thick walls are consequently made up of thousands of stone blocks, scattered around and jumbled together. These are patiently being restored to their former positions and studied by archaeologists seeking to reconstitute the original form of the vanished monuments.

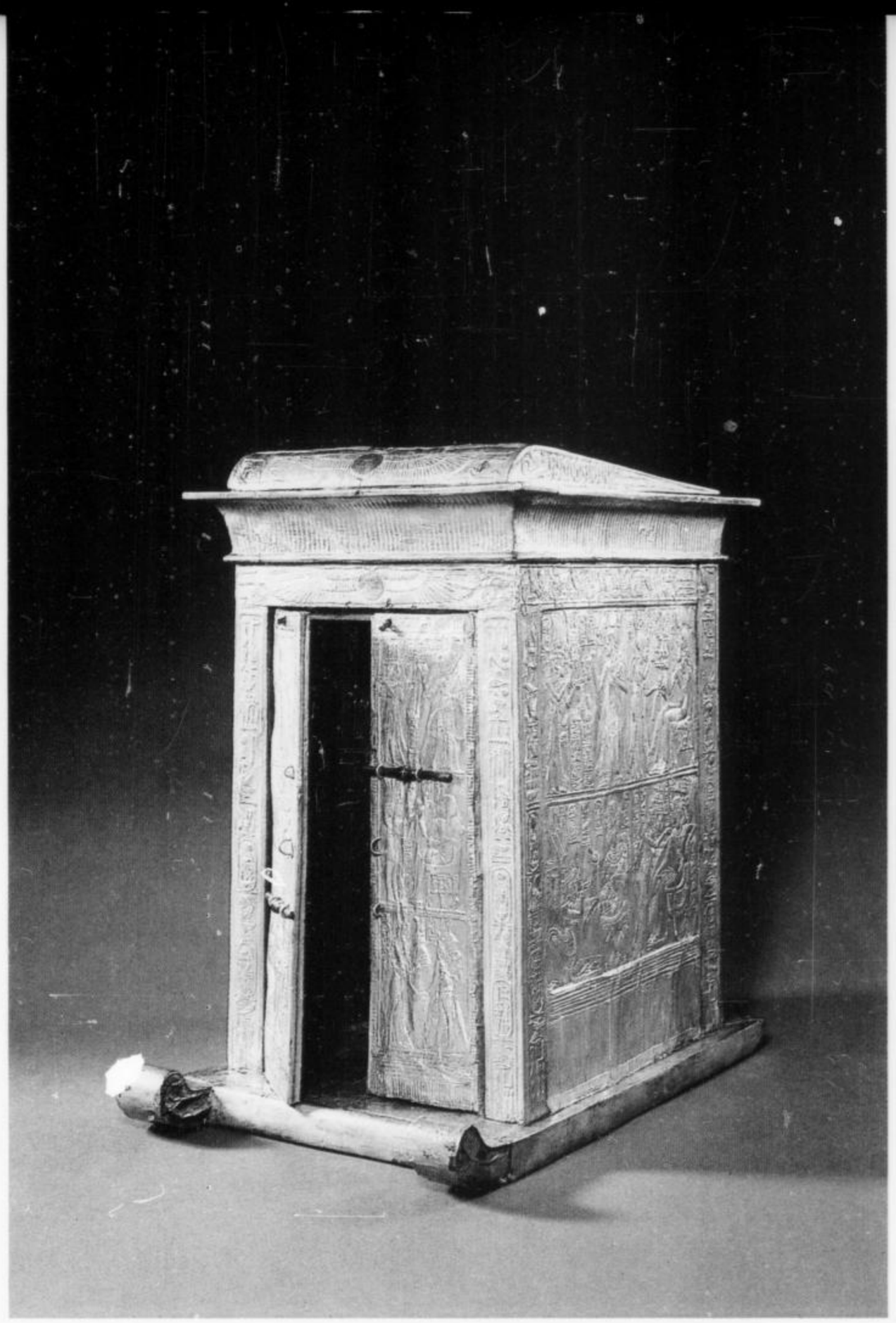
A form which, in itself, has nothing special about it: all the temples of ancient Egypt resembled one another. In front of the sanctuary were rooms paved with huge flagstones. At the entrance to the hypostyle (pillared) halls set along the main axis of the temple there were great stone doors framed by two massive towers symbolizing the two mountains at the confines of the land of Egypt: the Arabian chain in the east and the Libyan chain in the west. The doors and towers together formed a structure known as a pylon which marked the boundaries of a sacred place. Before the doorways huge wooden poles were adorned with banners that waved in the wind, revealing the movements of the "divine breath" through the world.

The general orientation of the temples was also a matter of deliberate choice. The main axis of the temple of Amon-Re followed the east-west course of the sun. It was intersected by a second perpendicular axis, running from south to north like the Nile. This royal axis, followed only by solemn processions, consisted of a series of courtyards and pylons preceded by colossal statues of the royal dynasty, which expressed in material form the eternal presence of the sovereign in the temple.

The way in which scenes were set out on the walls was patterned on the world in which the Egyptians lived. The bottom was bordered by geographical sequences in which the Nile gods alternated with the goddesses of the countryside



Right, gold-plated shrine *(naos)* from the tomb of Tutankhamen. Far right, replica of a *naos* made for a recent exhibition. Ancient Egyptian texts record that such shrines contained a cult statuette of Amon-Re. Below, the temple of Khons, the moon god, at Karnak. A series of doors led to the sanctuary, before which stood an altar to receive votive offerings.



and figures symbolizing the different administrative districts of the country, known as nomes. The ceiling was decorated with motifs inspired by astral themes: stars, constellations, zodiacs or representations of the sun's celestial course within the body of the goddess of the sky, Nut.

A precise system of symbols

The bas-reliefs on the walls indicated the function of each room. Divinities and plants that were emblematic of the north (the Nile delta, Lower Egypt) were placed on the northern side and those relating to the south (the Nile valley or Upper Egypt) on the southern side. Along the axis of the high cornices projecting out from over the doors the disk of the sun could be seen, protected by two upright cobras facing in opposite directions. The sun's celestial course was portrayed by the unfolding of two large wings. Inside the rooms were religious scenes depicting the essential ritual acts that were accomplished with the participation of divinities, the king and priests—offerings, processions, acts of consecration, acts performed on the occasion of coronations or jubilees. On the outside, scenes were portrayed that showed the exploits achieved during the reign: the slaughtering of enemies, conquests and battles.

JEAN-CLAUDE GOLVIN,
of France, is a research director at the French National Centre for Scientific Research (CNRS). He is currently director of the Franco-Egyptian Centre at Karnak and of the CNRS permanent mission in Egypt. His publications include *Les bâtisseurs de Karnak* (with Jean-Claude Goyon, 1987) and *Amphithéâtres et gladiateurs* (with Christian Landes, 1990).

The founding of a temple was marked by ceremonies in which the succession of building operations was accompanied by symbolic acts. Many scenes depict the king marking out the layout of the temple with string, scooping out the first furrow with a hoe, purifying the foundations with natron, laying the cornerstones with the help of a lever and finally presenting the dwelling to his master, Amon-Re.

The temple was thus ushered into existence like a living being. In one corner of the temple a "foundation deposit" was buried. This was a collection of objects comprising scale models of tools, representations of offerings (glazed earthenware lettuces, ox legs and heads and sacrificed

geese) and briquettes marked with the name of the king who had founded the temple. These deposits are a boon to archaeologists as they serve as the equivalent of birth certificates, enabling them to assign a date to the building of a temple.

Other temples formed part of a complex designed to ensure the dead Pharaoh's survival in the hereafter. Human beings were considered by the ancient Egyptians to have several components: the body, which was the material covering of the human spirit (which was mummified in an attempt to preserve it), but also the Ba (the soul), the Akh (the immortal principle), the shadow and the Ka (the life-force). The Ka of the king was the very embodiment of his royal rank, of the indestructible, cosmic part of his being, and after his death joined up with that of his divine ancestors.

The pyramid was associated with the royal tomb, both in its form, which was a symbolic reminder of the original mound and hence of the birth of the world, and through its alignment with the four cardinal points with, inside or outside as the case may be, its flights of steps. It thereby enabled the king to ascend to heaven, or in other words to eternity. Continually reborn like the morning star which rises every day in the east, he was then assured of living for "millions of years". ■

The proud tower

BY DOMINIQUE BEYER

'AND the whole earth was of one language, and of one speech. And it came to pass, as they journeyed from the east, that they found a plain in the land of Shinar; and they dwelt there. And they said one to another, Go to, let us make brick, and burn them throughly. And they had brick for stone, and slime had they for mortar. And they said, Go to, let us build us a city, and a tower whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth. And the Lord came down to see the city and the tower, which the children of men builded. And the Lord said, Behold, the people is one, and they have all one language; and this they begin to do: and now nothing will be restrained from them, which they have imagined to do. Go to, let us go down, and there confound their language, that they may not understand one another's speech. So the Lord scattered them abroad from thence upon the face of all the earth: and they left off to build the city. Therefore is the name of it called Babel..."

This is how the Bible *(Genesis XI)* evokes the Tower of Babel. Symbol of human excess and arrogance, this monument has always held a powerful appeal to the imagination. But the little that remains of the stepped temple tower (ziggurat) at the site of Babylon, which down the centuries has been plundered for building materials, flooded, and overgrown with reeds from the banks of the Euphrates, seems to bear little relation to the various recreations of it made by creative artists and scholars. Yet it is this monument to which the Bible refers.

In his *Histories*, the ancient Greek historian Herodotus gives the following description: "In the middle [of the sanctuary] is a massive tower, one *stadium* square, on top of which is another tower which supports a third, and so on up to eight towers. An external ramp rises in a spiral to the last tower; about halfway up is a balcony and some seats so that one can sit down and rest on the way. The last tower contains a large sanctuary in which there is a richly decorated bed, and beside it is a golden table. But there is no statue, and only one person may sleep there: a native woman whom the god has chosen before all others, say the Chaldeans, who are priests of this divinity."

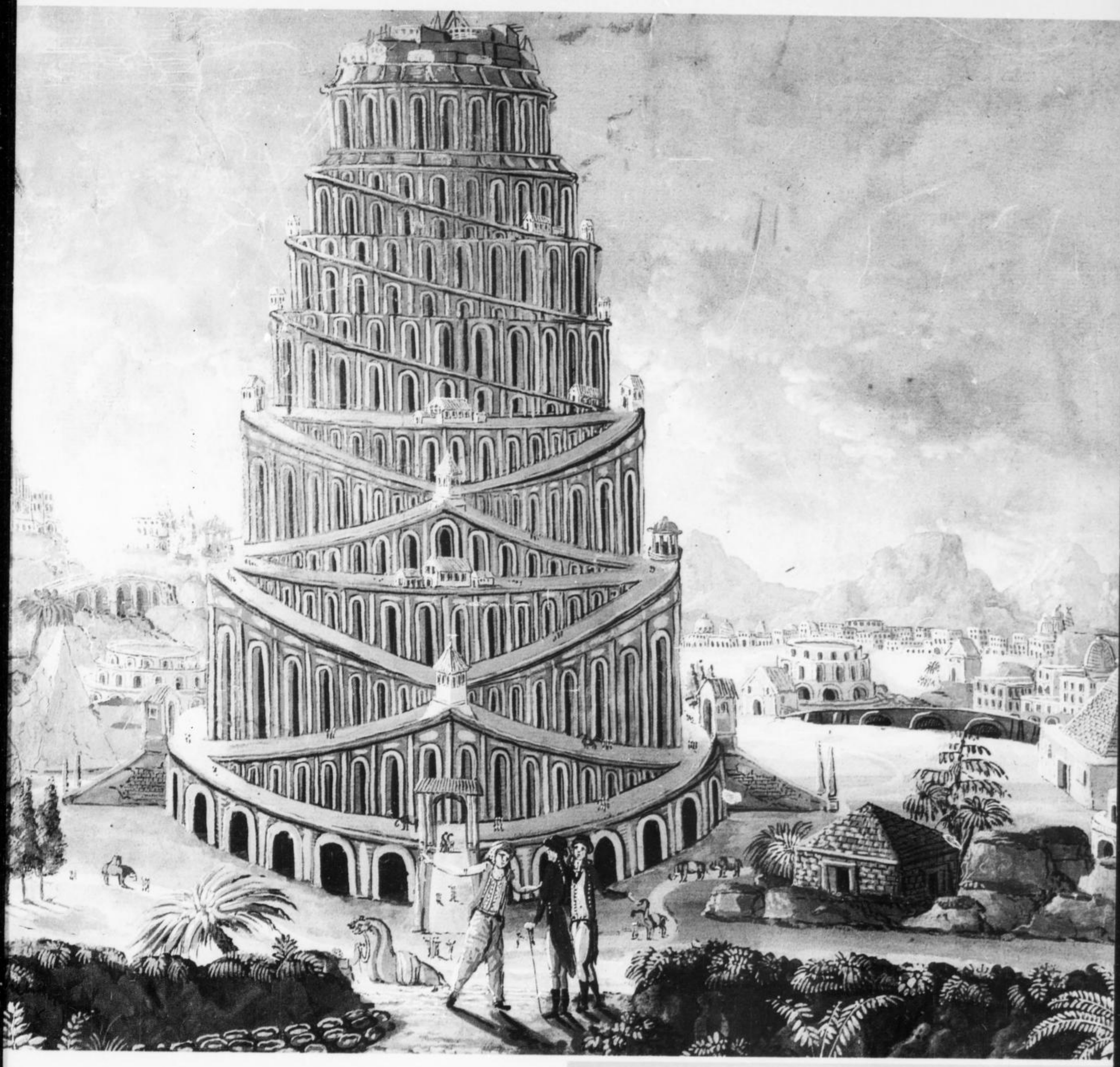
The gist of this account by Herodotus is borne out by cuneiform inscriptions on a Babylonian tablet dating from the Seleucid epoch (third century BC). The inscriptions are based on an older text which describes the great Temple of Marduk, patron god of Babylon, restored by the Chaldean kings Nabopolassar and his son Nebuchadrezzar II towards the beginning of the sixth century BC. This temple bore the name of *Esagila,* "temple which uplifts the head". Its accompanying ziggurat, the biblical Tower of Babel, was called *Etemenanki,* "house of the foundation of the universe". With a base of 91 metres square and rising to a similar height, the tower consisted of seven stepped storeys with a temple at the top.

Erosion has removed all trace of the temple, and it is hard to say with certainty what function was performed by the ziggurat, the centrepiece of a vast religious ensemble. In the religious beliefs of the ancient Sumerian and Semitic inhabitants of the land of the two rivers (the Tigris and the Euphrates), the stepped tower must surely have been invested with many meanings, and with its temple must have represented a mythical vision of the universe.

The names given to different ziggurats, such as "house of the mountain of the universe", "house of the mountain that reaches to the sky", provide valuable clues. Some texts designate the ziggurat as the house of god and it is possible that the marriage rites of deities took place there. The Babylonian creation epic also evokes this resting-place, where the way of heaven meets that of the earth, where after the creation of the two parts of the world the deities of the heavens and of the earth gathered together around the great god Anu, and where the deities of *Apsu,* the primordial waters beneath the earth, rejoin Ea, the benefactor of humanity.

The Mesopotamian ziggurat seems to have been considered as the centre of the universe and a mythical link between heaven and earth. In the words of King Nabopolassar himself: "The god Marduk has commanded me to lay down solidly the foundations of *Etemenanki* as far as the subterranean world and to cause its summit to reach the heavens." ■

DOMINIQUE BEYER,
of France, is professor of the archaeology and ancient history of the Near East at the University of Strasbourg II. Until October 1990 he was curator of the department of Oriental Antiquities at the Louvre Museum, Paris. He has directed a number of archaeological missions in Turkey, Cyprus, Syria and Iraq.



Above, *The Tower of Babel*, anonymous watercolour (late 18th century).
Right, the ziggurat of Ur, Iraq (21st century BC).

Greece

Many Greek temples were prestige monuments rather than places of worship

A sense of awe

BY SOPHIE DESCAMPS-LEQUIME

WHEN the Greeks felt a sense of awe in face of natural phenomena which they could not explain, they believed that they were in the presence of a god. Such phenomena might include an endlessly bubbling spring, the rustling of the wind in leaves, an unusually shaped rock, a clap of thunder, a fleeting shadow, or even a silence. Places capable of arousing strong and frequent feelings of respect tinged with fear, which the Greeks called *thambos,* were favoured sites for sanctuaries.

The gods manifested themselves in all kinds of places. Apollo, for example, selected the grandiose setting of Delphi, which clings to the sheer cliffs of the Phaedriades, as well as the rocky island of Delos in the Aegean. The limits of the territory over which the god held sway were marked by boundary stones or a surrounding wall. Entry into the sacred precinct was forbidden. It was sacrilege to be born or to die there or for anyone with the slightest taint to set foot in it. This sacred place cut off from the profane world became the *temenos* of the god *(temenos* in Greek means "cut off").

The most imposing vestiges of these sacred places are the temples which are among the best preserved buildings of ancient Greece. But were temples really an essential feature of the sanctuaries where the Greeks honoured their gods?

The sanctuary of Zeus at Olympia provides some highly revealing clues. For almost 500 years, its patron god had no temple of his own, even though, as Hesiod wrote in the seventh century BC, he had the power to make mortal men obscure or celebrated, to cast down those who showed overweening pride and exalt the humble, to thunder over the heads of the Greeks and to inhabit the loftiest abodes. The first votive offerings to Zeus date from the beginnings of the sanctuary around 1000 BC, but the temple housing the god's statue was built by the architect Libon of Elis as late as 468 BC.

Why did the foremost of all the gods of Olympus have to wait so long before he was given a dwelling in his own sanctuary—longer indeed than his wife Hera, whose temple was consecrated around 600 BC? Why was it so long before it was felt necessary to honour the god by consecrating a building to him at that Pan-Hellenic place where spectators and athletes from all the cities of the Greek world gathered every four years for the Olympic Games?

The answer is that the temple occupied only a secondary place in Greek religion. It was not the original core of the sanctuary. Unlike the cathedrals of medieval Christendom, the Greek temple was never the focal point of a city. It was an altar in the open air that was the focal point of the ceremonies performed by the Greeks in accordance with the needs of a ritual which dated back to the time of the Homeric heroes. What the gods expected from men were prayers, offerings and sacrifices, in return for which they acceded to the requests of the faithful and bestowed their blessing upon them.

The supreme sacrifice was consummated in blood. Like the Trojans in the *Iliad,* the participants assembled on an esplanade and "laid out the illustrious hecatomb around the resplendent altar". The throats of the animals were cut at the foot of the altar, on which burned a fire whose flames entirely or partly consumed them. The smoke rising into the sky was food the gods loved.

Low-relief sculptures of water carriers, from the frieze representing the annual Panathenaic procession (445-438 BC), the Parthenon, Athens.
Opposite page, the temple of Apollo on the island of Delos in the Aegean (5th century BC).

An altar was the essential—and might be the only—feature of a sanctuary. It might predate the temple by several centuries, as was the case at Olympia. Many altars were made of stone and some were of imposing size—in the third century BC, the tyrant Hieron II built an altar 192 metres long at Syracuse in Sicily. Others were built of perishable materials. The altar of Apollo at Delos was made of the horns of goats used in sacrifices, and the altar of Zeus at Olympia consisted of the piled-up ashes of the sacrificial victims. The tireless Greek traveller Pausanias described it as a cone with a circumference measuring 37 metres at the base and standing almost 7 metres high.

As a rule, the altar was situated in front of

Cross-sectional drawing made in the late 19th century shows the interior of the Parthenon as it might have been in Antiquity with a colossal statue of Athena Parthenos.

the main façade of the temple, on the eastern side. Processions of worshippers wended their way to it. Access to the temple housing the god's statue and some of the sacrificial offerings was usually confined to the priests. The worshippers, who did not often enter the temple, caught a glimpse of the god's effigy through the half-open doors. At Elis, the temple of Hades, god of the underworld, was opened only once a year and only the priest was allowed to enter it.

A second barrier

A Greek temple was thus a closed world. The fence which separated the *temenos* from the world of humankind was in its turn surrounded by a colonnade. The worshippers remained on the esplanade outside, and the colonnade merely gave them an opportunity to walk round the building. The few exceptions to this rule were both temples and sanctuaries, and not only housed the statues that were worshipped in them but also represented an emanation of the deity. The temple of Apollo at Delphi straddled the cleft in the rock through which the god imparted his oracle. Those wishing to consult the oracle underwent ritual purification and then entered the building, but they were not allowed to go as far as the secret place where, wreathed in shadow and hidden from their gaze, the priestess or Pythia sat on a pedestal and handed down the answers given by the god.

The earliest temples were not very different from the dwellings of human beings. Although, as Apollo said in the *Iliad,* "there will always be two separate races—the race of the immortal gods and the race of humans walking on earth"—man lent his appearance to the gods and acknowledged that they had the same needs as people. Small votive shrines were built in those early times when the abode of a god was made in the image of that of man. They consisted of a single rectangular or semi-circular room, with walls made of rough bricks or clay mixed with pebbles and straw on a base of stones and rubble, and a roof supported by wooden pillars.

The Greeks were primarily city-dwellers and the evolution of the Greek temple followed that of the Greek city-state. Every civic community honoured its protective gods by embellishing the sanctuaries dedicated to them, and ostentation often took precedence over piety. In the sixth century BC, the cities were in the hands of rich tyrants who displayed their power by constructing grandiose monuments in the sacred places. Temple-building developed rapidly, and architects strove to impress and outdo their rivals.

The rudimentary early structures gave way to massive buildings constructed partly or wholly of limestone and marble. In some cases the transition to stone was a gradual process. In the temple of Hera at Olympia the wooden columns were gradually replaced until by Roman times only a single one was left. This was still visible in the third century AD, when it was regarded as a curiosity. However, by the beginning of the sixth century BC, some temples were being built entirely of stone. The temple of Artemis on the island of Corfu is one example.

As architects learned to master this noble but unwieldy material they began to think in terms of volumes and of the use of space to give prominence to the effigy of the deity. The main chamber of the temple, or *naos*, containing the statue, was preceded by a vestibule, the *pronaos*, which was matched symmetrically by a second porch, or *opisthodomos*, at the rear of the building.

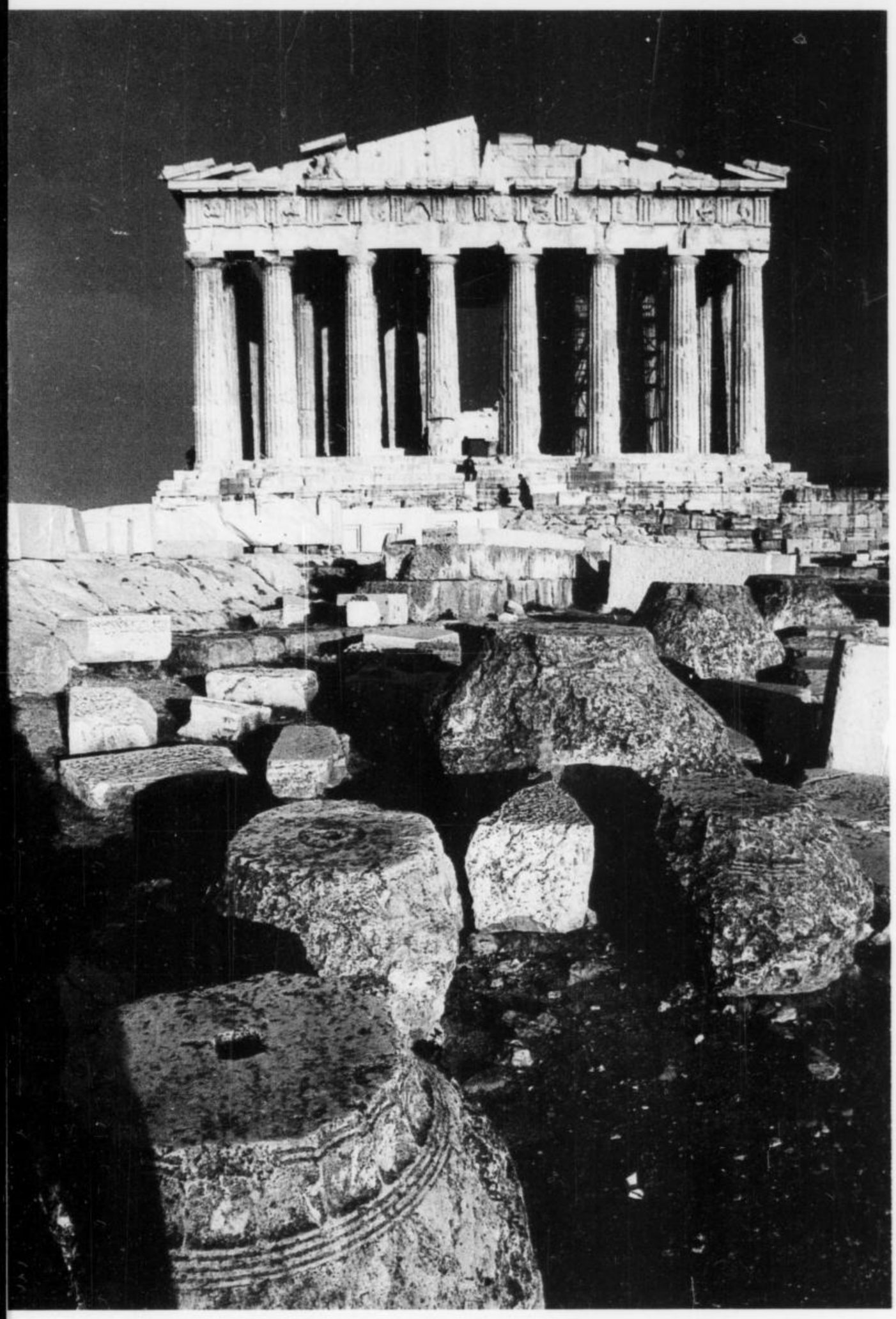
The boldest architects were those of the Greek cities of Asia Minor. They built temples as big as cathedrals, with double rows of columns around the main chamber which were probably inspired by the mighty architectural complexes of ancient Egypt. The temple and the sanctuary of Hera on the island of Samos were known as the labyrinth, on account of their majestic forest of 104 columns, which was a source of wonderment to the people of the time. The temple of Artemis at Ephesus, some parts of the carved decoration of which were donated by King Croesus, was one of the Seven Wonders of the Ancient World. It now survives only in legend, since it was burnt down by arsonists, reputedly on the night Alexander the Great was born.

Religious propaganda

The builders of mainland Greece and Sicily were less adventurous. Their temples were smaller and more compact. Even so, they distinguished themselves from their counterparts in the Ionian cities by evolving a completely different architectural language. Their style, known as Doric, was not purely decorative. The figurative scenes which adorned the pediments of the façades and the metopes, the square spaces alternating with the vertical fluting on the frieze all round the building, were intended to convey a message. Sometimes painted, but more usually carved, these scenes recounted the great myths with which the Greeks were familar from childhood.

They depicted episodes from the lives of the gods and legends from the time when the founder heroes of the cities had consorted with the gods. The subjects were chosen for purposes of religious

SOPHIE DESCAMPS-LEQUIME, of France, is curator of the department of Greek, Etruscan and Roman Antiquities at the Louvre Museum, Paris.



The Parthenon was built on the Acropolis in Athens between 447 and 432 BC.

or political propaganda. The metopes of a temple at Selinonte in Sicily show Apollo in his four-horse chariot, Perseus cutting off the head of the Gorgon Medusa, and Hercules grappling with the two brigand brothers, the Cercopes. The twelve sculptured metopes of the temple of Zeus at Olympia depict the twelve labours of Hercules, the son of Zeus and founder of the Olympic Games. The pediment of the main east façade recalls another hero, Pelops, who gave his name to the entire region, the Peloponnese. Pelops is shown making ready to challenge King Oenomaus in a chariot race. The worshippers who saw the pediment would have known that Pelops would win the race by a ruse and that thereafter a curse would fall on his descendants.

The iconographic sequence adorning the Parthenon in Athens, which was built in the second half of the fifth century BC, was designed to celebrate the city and its protective goddess Athena. On the pediment of the western façade, which is immediately visible from the entrance to the Acropolis, Athena and Poseidon the sea-god can be seen disputing the possession of Attica. The goddess, who was victorious, also appears on the main eastern façade of the temple, the pediment of which illustrates her birth in the presence of the assembled senior gods of Olympus. The metopes evoke the combat in which she and the other gods engaged against the Giants at the dawn of time. On a continuous carved frieze almost 160 metres long, visible only through the rows of columns, Phidias, the master sculptor, illustrated the main events of the Great Panathenaic festival held in honour of Athena every four years, when the goddess was presented with a sacred tunic, the *peplos*, the supreme offering solemnly bestowed upon her by the Athenians. Phidias portrayed the entire city in a scene in which the citizens of Athens mingled with the chief gods of Olympus and the first legendary rulers of the city.

The Parthenon housed an effigy of Athena, formed of plaques of gold and ivory and measuring almost 12 metres high. Yet in spite of its opulent decoration, this statue was not meant to be worshipped. It did not have a priestess and was simply valued as a precious object. The authentic object of worship on the Acropolis was an old wooden idol contained within the enclosure of the Erechtheum which encompassed the city's holiest places.

A temple such as the Parthenon had every appearance of a place of worship without actually being one. The official cult practised there was lacking in spiritual substance. When the citizens gathered to partake of the sacrifice which they offered to their gods, they were above all reaffirming the civic ties which bound them together.

The way to salvation

Traditional religion did not satisfy everyone. To the just man capable of living by the precepts of Greek ethics, the "know thyself" and "nothing in excess" inscribed on the temple of Apollo at Delphi, it did not hold out any hope of a better life in the hereafter. The Greeks, who were familiar with Homeric poetry on the world of shadows, recalled the lamentations of the hero Achilles, who would have preferred to "live as a ploughboy labouring for a poor farmer rather than reign over the dead, over this entire people whose lives have been extinguished". This dissatisfaction accounts for the emergence of redemptionist religions such as the Eleusinian Mysteries, which guaranteed their initiates a happy life after death.

But the gods of Olympus continued to be worshipped in traditional ways, and temples continued to be built for several centuries. Few Greeks seem to have heeded the words of the Stoic philosopher Zeno who proclaimed at the beginning of the third century BC that "God is universal reason that is present in all things..... Such a god does not countenance statues or temples, for the true sanctuary lies in the star-studded sky". ■

STONEHENGE is the most famous prehistoric place in Europe. Like the pyramids of Egypt and the Great Wall of China, it is one of the few archaeological sites known the world over. What is Stonehenge? Why does it deserve to be celebrated?

Stonehenge is the ruin of a single stone building. It stands on grassland, on the handsome undulating chalk downs of southern England, about 120 kilometres west of London. Nearly half the great blocks of stone which its full design needs have disappeared, taken away to make bridges, broken up for building stone; or perhaps the full design was never completed. Seen from the ground today, Stonehenge is a confusion of stones, many of them neatly trimmed to a clean shape. Some stand upright, as high as 6 metres above ground. Others, a little smaller, bridge across from one upright to another. Others lie broken or half-buried in the grass. Seen from the air, or studied in a plan, the stones show themselves to have once been arranged geometrically, the majority in two circles and in two U-shaped settings, so the basic design of the place is straightforward enough.

Stonehenge is not large. Its main part is 30 metres in diameter and there are less than 200 blocks in the full design. But the blocks themselves are remarkable. They weigh many tonnes, and show in protected places the traces of the mason's work, where they were hammered and rubbed into shape. In other places, less sheltered, their rough surfaces betray the force of 40 centuries of British summers and winters which have worn and coarsened the rock. The larger blocks come from sandstone deposits about 45 kilometres to the north of Stonehenge, and the smaller ones from beds of volcanic rocks in Wales, 200 kilometres to the west. The experts are at present arguing as to whether prehistoric people dragged the stones from Wales, or whether the swirling ice of glaciers had conveniently delivered them by natural causes near to Stonehenge.

Although Stonehenge is a stone building, it is not built with walls and arches. Each column is a single upright stone, buried into a chalk foundation to hold it in place. Each horizontal is a single stone also, held in place by a peg carved on the top surface of the upright which fits into a matching socket under the horizontal. This is the technique of the carpenter.

Who built Stonehenge? That we do know. Radiocarbon dating, the scientific method on which the prehistoric chronology of Europe depends, shows that the main part of Stonehenge is about 4,000 years old, though portions are several centuries older or younger. This is many hundred years before the Roman empire reached out from the Mediterranean to the north, so one can be sure that Stonehenge was built by the inhabitants of the ancient British Isles, rather than invaders from the south. They too were responsible for building several hundred other stone circles across the islands, some larger than Stonehenge and some smaller, but none so complex in layout or built of such neatly shaped blocks. And right across northwest Europe, from the Atlantic coast of Spain to the Baltic Sea, people at that time were in the habit of building tombs, temples, and lines of stones out of great blocks. All these monuments archaeologists call *megaliths,* from the ancient Greek words for "great" and "stone", because it is the massive size of the blocks that impresses.

How did they build Stonehenge? When some fallen stones were lifted back up during the 1950s, they were so heavy that the largest mobile crane then available in Britain was needed. Yet the builders of Stonehenge had no powered machinery; their kit was made of stone, of soft chalk, and of trimmed tree trunks and branches. They must have had ropes to pull the stones; we believe that these were twisted from strips of cow hide. It would have taken many hundreds of people many long days to shift the stones across country to the site, to hammer at the hard surface to trim the shape and make the pegs and holes for the joints, and to

The mystery of

manoeuvre each stone into place with chalk ramps or wood packing.

What was Stonehenge for? The care taken in its building, and the vast expenditure of labour that it involved, make it evident that it was of the greatest importance. Stonehenge could not have been a house—it never had a roof—or a place to keep animals. It was not a mundane building whose purpose is simply practical. Its meaning was spiritual, it was some kind of holy or sacred place. In short, it was a temple.

As centuries passed, the importance of Stonehenge faded. None of the Roman authors who reported on the state of Britain 2,000 years after it was built make a mention of it, and in the end it was forgotten completely. The name Stonehenge is medieval, and indicates the period when it was noticed again. So we have no direct record of just who or what was worshipped at Stonehenge, and why this particular spot was chosen to be made sacred.

The evidence of Stonehenge itself, pieced together by minute study and archaeological observation, gives some clues. First, there is the exactness of the design, judged to a precision of a few centimetres and carried out on a grand scale: this is the work of some commanding expert—a person who today would be called an architect. Second, there is the execution of the design and the great effort this would have required from small and scattered communities of subsistence farmers: this was a community venture which made demands on all. Third, the space inside the Stonehenge circles is not large: it would hold at most 300 people—many fewer than the number involved in the building. One thinks of the common structure of sacred buildings, with an outer area open to all, and a special inner place reserved for the priests, where more holy matters are celebrated. The central area of Stonehenge, surrounded by stone uprights that close it off from the open area outside, is similar in area to the choir of a medieval European cathedral.

There is another clue. Stonehenge is designed to fall symmetrically around an axis that runs from south-west to north-east. And from the north-east entrance an avenue, visible on the ground as eroded earth banks, runs across country on that same north-eastern axis. That axis is aligned in the direction of sunrise at the summer solstice, 21 June in the modern calendar, the longest day of the British year. A small number of other megalithic monuments seem to have similar alignments: the Newgrange mound in western Ireland, a little older than Stonehenge, is aligned to sunrise at the winter solstice, the shortest day of the British winter. The conclusion is obvious: Stonehenge was a temple of the sun.

Modern astronomers, looking at the position of individual stones and calculating how they might relate to movements of sun and moon, think that Stonehenge is more than a temple; it is some kind of observatory where exact study of the heavens was made, the movements of sun and moon tracked, and their eclipses predicted. Archaeologists, knowing that alignments can arise by chance and doubting that prehistoric Britons were any kind of white-coated scientist, are not convinced. I am not sure myself even that the sun was worshipped at Stonehenge, although the miracle of its daily rebirth in the eastern dawn each morning must have had a full place in prehistoric Britons' view of their life and world. Notice that Christian churches are aligned towards the east, towards sunrise in fact: yet Christianity is not the worship of the sun.

We do not know exactly what was worshipped at Stonehenge. We do not know if everyone in the community went to it, or only a special few men or women or children or old people. We do not know if worshippers entered it in joy or terror. We do not know if worship filled their lives or meant their deaths. But we do know that Stonehenge was a religious place, a sacred site. ■

CHRISTOPHER CHIPPINDALE, British archaeologist, is editor of the international journal *Antiquity* and a curator at the University of Cambridge Museum of Archaeology and Anthropology, United Kingdom.

Stonehenge

BY CHRISTOPHER CHIPPINDALE

Buddhist architecture from India to China

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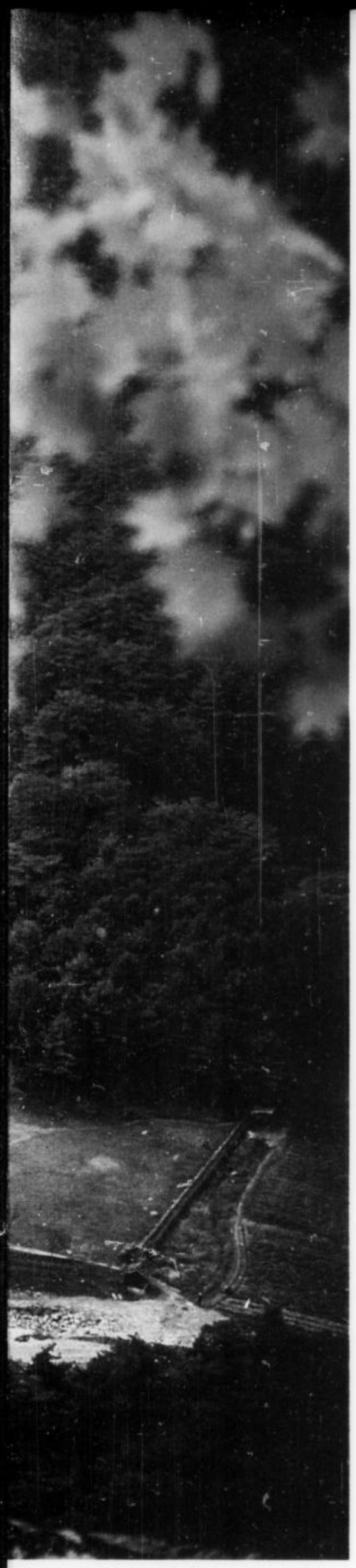
Heavenward steps

BY JACQUES GIÈS



Above, Buddhist temple-monastery complex at Popchusa, Republic of Korea (1624).
Inset, from top to bottom: Pagoda of the Tianningsi ("heavenly peace") Temple at Beijing, China. Thought to have been built under the Liao dynasty (907-1125), it has 13 storeys rising to a height of 58 m.
The "Big Wild Goose Pagoda" at Xian, China (652 AD).
Pagoda of the Kosanji Temple at Setoda, Ikuchi Island, Japan (1946).
The great golden stupa of the 15th-century Shwe Dagon Pagoda at Rangoon, Myanmar (formerly Burma).
The eyes of Buddha on a small stupa near Kathmandu, Nepal.

For most people, the architecture of Buddhism in the Far East is synonymous with its most typical feature, the pagoda, a lofty tiered structure with a projecting curved roof at each level. In popular imagery pagodas appear as ubiquitous features of the town and country landscape, but they are most typically shown in remote mountain sites which seem particularly appropriate to the silent inner quest, the meditation and renunciation which are characteristic of Buddhist practice.

In China, Korea and Japan the pagoda dominates a cluster of buildings which stand inside an enclosure whose wide gates give it the appearance of a walled city. This complex of buildings consists of temples and a monastery, for Buddhist temples are usually shared by monks who live there permanently and members of the lay community, in contrast to the Christian West where there is a distinction between cathedrals and churches which are built in the midst of the community and monasteries which are secluded from it.

The temple-monastery complex is the product of a long period of development. In early Buddhism, the religious ideal was pursued exclusively by communities of monks. And although it was in India, the cradle of Buddhism, that monks and laymen first began to share the hospitality of sacred monastic precincts, the temple-monastery would find its most complete expression in the most distant corners of the Buddhist world, especially in the imperial foundations of the Tang dynasty in China during the seventh and eighth centuries AD.

The first Buddhist monument was the burial mound housing the relics of the spiritual master, Gautama Buddha (the "Enlightened One") who lived in the fifth century BC in northern India. A cosmic symbol, this tumulus or stupa was a hemispherical mound surmounted by a mast and surrounded by a circular balustrade with a gateway at each of the four cardinal points. Crowning the central axis were a number of discs corresponding to the celestial domains of other worlds. Later stupas were conical or shaped like a four-sided pyramid. Later still tower-like stupas were built in China, and from them the pagoda eventually developed.

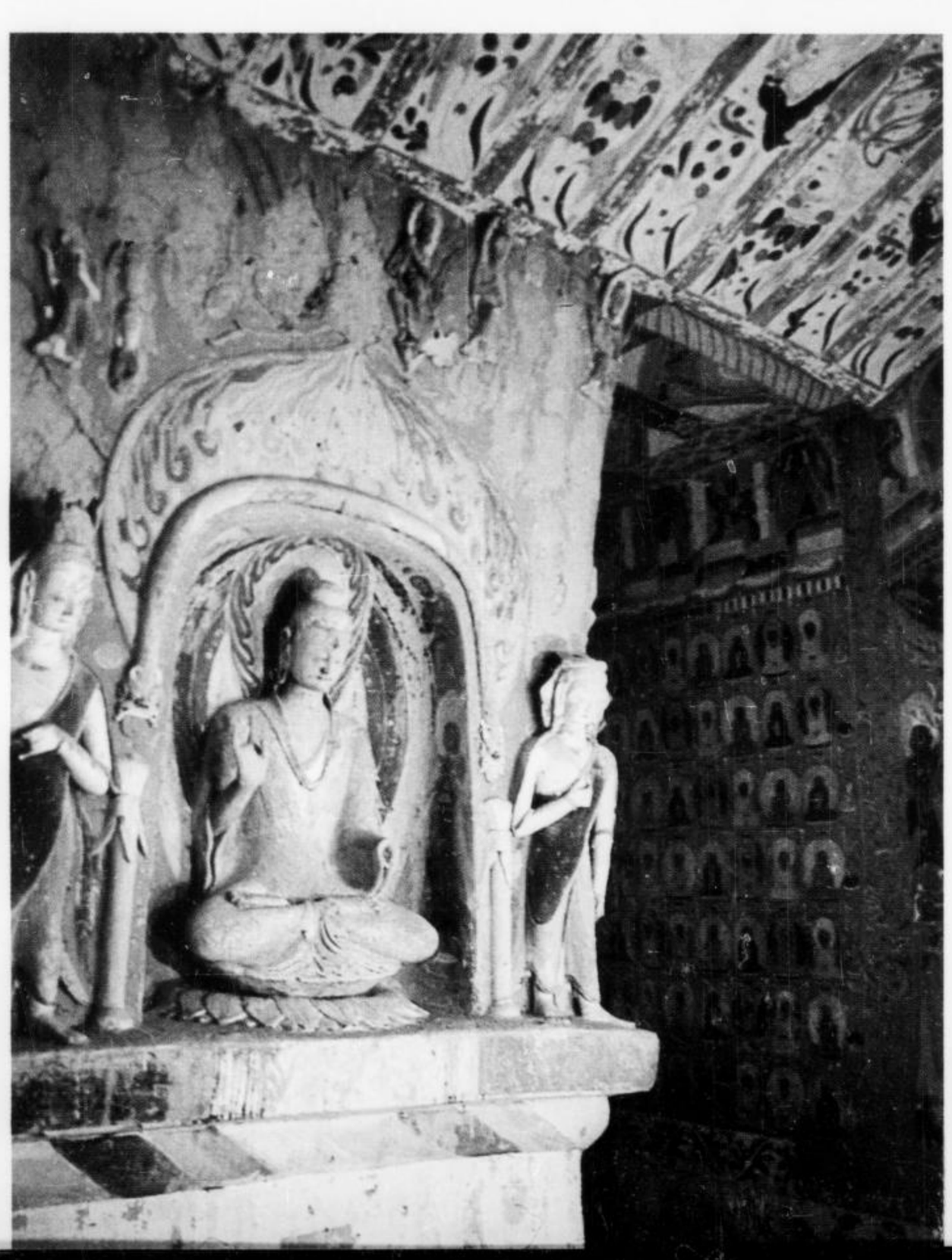
The first Buddhist communities had neither meditation halls nor fixed abode. The monks lived as wandering preachers who renounced worldly possessions and begged for their food like the Master and the traditional holy men of India.

The first Buddhist places of communal devotion date from the second and first centuries BC when monks in western India began to convert caves for this purpose, probably because it was their practice to use caves as places for meditation when travel was impossible during the rainy season.

This type of semi-natural "architecture" was so influential that cave-sanctuaries continued to be used in the Buddhist world as well as free-standing temples, especially in central Asia and China. In some cases, as at Dunhuang in China's Gansu province, a wooden façade was placed in front of the entrance to the caves or the rock was carved in imitation of a wooden construction.

In Buddhist religious architecture there were thus two types of building, the meditation hall, which was a development of the monk's cell, and the stupa or reliquary monument. At first these two types were distinct, but when the temples at Karli and Bhaja in western India were built some three or four centuries after the death of the Buddha, they merged into a single edifice.

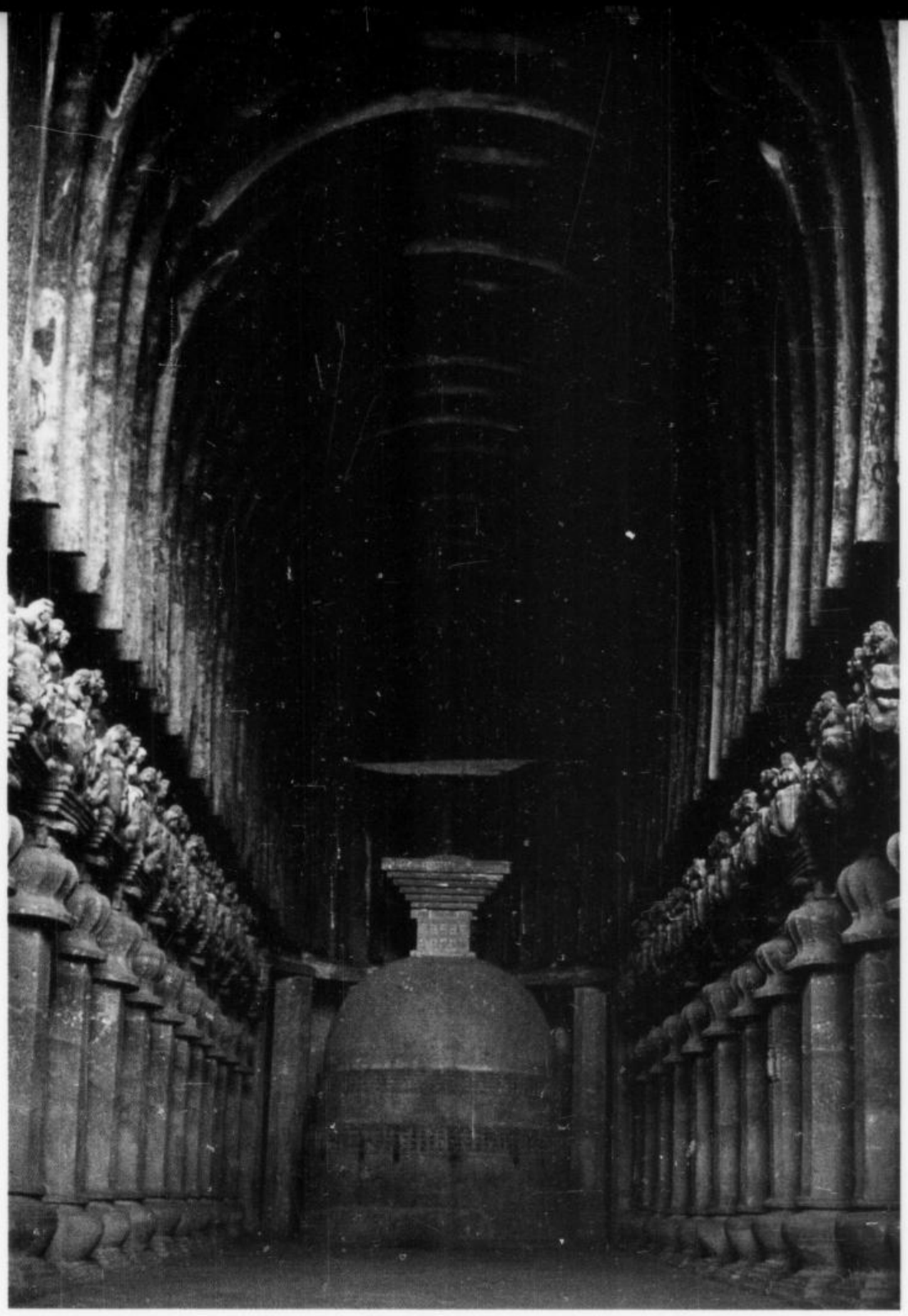
Right, the vast hemispherical dome of the Great Stupa at Sanchi in northern India, founded by the emperor Asoka (268-233 BC).
Far right, the cave-sanctuary at Karli, near Pune, India (c. 50 BC). Two rows of pillars surmounted by carved figures lead to a semi-circular apse which houses the stupa.
Below, statue of the Buddha, flanked by two attendants, in a niche of the stupa in one of 486 cave-sanctuaries at Dunhuang, Gansu province, western China (4th-10th century).



Influences on sacred architecture

Buddhism is rooted in history through the person of its founder and this is the core of its doctrine. The life and work of the sage Gautama were at first the sole object of devotion and the way shown by him was the spiritual path to be trodden. It is fitting therefore that the first Buddhist monument should have been the stupa, a burial mound and shrine. Better than any other symbol, it represents his passage through history.

A more ambitious architectural approach developed later to accommodate a growing community united by the rules of a single liturgy. The schism which occurred in the first century AD, between those who were faithful to monastic orthodoxy (Hinayana or "Little Vehicle" Buddhism) and the reformers, who favoured a more just distribution of spiritual vocations between men (Mahayana or "Great Vehicle"), influenced sacred architecture. The capacity of the holy places was increased to accommodate the students and followers of Buddha and, more importantly, a pantheon of deities (Bodhisattvas) appeared around the image of the Buddha as objects of popular veneration.



The rock-cut shrines of central Asia

Two types of sacred architecture—cave-sanctuaries hewn out of the living rock and precincts containing temples, a monastery and a stupa—developed in the oases on the Silk Road in Chinese Turkestan which became focal points of Buddhist culture after the eclipse of Buddhism in India.

Rock-cut shrines such as those at Yunkang in China's Shanxi province are often called "caves of a thousand Buddhas" (a term which distinguishes them from temples in the strict sense) owing to their rows of stone Buddhas carved from the cliff face. Their design showed a progressive change of style during a period of intense religious activity which lasted from the fifth to the eighth or ninth centuries. The oldest sites, in which there is a *pradaksina* (circumambulatory) path around the revered stupa, reveal the influence of early Buddhist foundations in India.

In central Asia the stupa is a quadrangular pillar, each face of which may be adorned with a statue of the Buddha, who is often flanked by attendants. Stupas of this kind express the ancient link, which originated in India, between the symbolic monument and the sacred image. At the same time, the cave walls were gradually covered with paintings illustrating scenes from the lives of the Buddha.

The pillar stupa and the circumambulatory path disappeared from central Asian cave-sanctuaries constructed in the seventh and eighth centuries, thus indicating a change in ritual practice. An altar consisting of statues was carved in a niche hewn from the wall at the end of the cave, facing the entrance. The new design encouraged the creation of monumental imagery in which the Buddha, usually shown preaching, is surrounded by an assembly of revered beings (great monks, Bodhisattvas, god-kings and guards), in large groups of painted sculptures.

The disappearance of the circumambulatory path brought a decline in the illustrations of the lives of the Buddha which the faithful saw during their ritual encirclement of the stupa. The pious tended to ascribe divine and universal stature to the Buddha. His benevolent image was depicted in many transcendent figures which triumphantly cover wide expanses of space. Much detail was devoted to visions of the worlds in which the devout hoped to be reborn, and each wall of the cave was decorated with vast mystic compositions, designed as self-contained panels.

Although the design of the cave-shrines was inspired by pillars, beams, consoles and other features of wooden edifices, it did not reproduce the fine architecture of the free-standing temple, that harmonious complex of sanctuaries and other monuments. Such free-standing temples are known to have existed in the oasis towns of Kucha, Khotan and Tumchuq in central Asia, but it was in China that temple design attained such a measure of stylistic coherence and such power as the expression of a religious ideal that it was adopted as a classical model by Korea and Japan.

The ancient Chinese rules which governed the symbolic use of space came to dominate the architecture of the Buddhist temple. The notion of a centre and the four cardinal points gave rise to the alignment of the main chapels along the north-south axis and the four doors of the temple precinct. This symbolic layout is endlessly repeated in an interplay of corresponding features and is duplicated by the vertical superstructure symbolizing the earth at the base and the celestial dome above. As Rolf A. Stein has written, "Whether it was already vested with this meaning or not, the stupa had become an orientated tower with a square or octagonal base which can be ascended in a spiral, in imitation of the graded heavens of Buddhism". ■

JACQUES GIÈS,
of France, is curator of the Chinese section of the Musée Guimet in Paris and professor of Chinese art and aesthetics at the University of Paris IV (Sorbonne). He has published a number of articles on Buddhist art in China and central Asia.

The once and future

IN the history of Judaism, the Temple of Jerusalem is constantly referred to, not so much as a holy place that marks the site of a bygone event or ritual, but as a symbol of messianic hope. The Jerusalem towards which Jews turn three times a day, at the time of prayer, is not the Jerusalem of their roots, but a city to come.

In Judaism, the link between people and God finds consecration in the Tabernacle, the Temple and the synagogue. Although omnipresent and thus able to manifest Himself anywhere, regardless of the physical surroundings, God nevertheless instituted the notion of a privileged sanctuary when He commanded the Hebrews in the wilderness to build a Tabernacle to house the Ark of the Covenant in which the Tablets of the Law were to be kept.

The Tabernacle, the first holy dwelling-place in Jewish history, is described in detail in the Bible. The Tabernacle is primarily the dwelling-place of God ("And let them make me a sanctuary, that I may dwell among them"). It was to be in the form of a tent, a mobile sanctuary, thus clearly showing that its sacred nature was due to the presence of God and was not associated with any particular place. God's presence was symbolized by the Ark of the Covenant, with its Cherubim, whose outspread wings formed the divine king's throne.

The arrangement of the interior space and

From Temple to synagogue

The link between man and God consecrated in the synagogue and two earlier sanctuaries—Solomon's Temple and the Tabernacle described in the Bible

city

BY LAURENCE SIGAL.

furnishings of the Tabernacle were in conformity with the divine decrees. These concerned, in particular, the Ark of the Covenant, the menorah or multi-branched candelabrum, the table for the shewbread and the altar. Above all, they ordained the division of the Tabernacle into two distinct areas—the main hall and the Holy of Holies, whose proportions, functions and contents were to be repeated in the Temple of Solomon, thus ensuring continuity of conception from one sanctuary to another.

The building of the Temple of Solomon, around 950 BC, was a response to the sedentarization of the people of Israel, as well as a peak of grandeur attained by the kingdom of David. The Temple of Jerusalem became the religious centre of the nation. At times of pilgrimage, the faithful flooded in from all Judaea and even from more distant regions to bring their offerings and to make their sacrifices. The ritual instituted in the Bible took on its ultimate form and the Temple both embodied the notion of a holy place and offered a pattern for ecclesiastical architecture.

It can be assumed that, very early on, alongside the sacrificial rites performed in the Temple and earlier sanctuaries, the Jews offered up prayers. There are, however, few textual references and no archaeological evidence to support this hypothesis. The institution of the synagogue

Opposite page, the Temple of Jerusalem illustrated in a Haggadah (book of explanatory matter in rabbinical literature). Hungary, early 20th century.
Above, miniature from a Spanish Haggadah of the 14th century, showing the Haggadic narrative being read to illiterate members of the Jewish community in the synagogue.

as the place of prayer, therefore, probably dates from the Babylonian exile (587 BC).

It was on their return to Israel in 538 BC that the captives from Babylon brought back with them the custom of gathering to pray and listen to the reading of the Law (the Torah). This practice coexisted with the ritual of the Temple for many centuries, and continued alone after the destruction of the Second Temple in 70 AD.

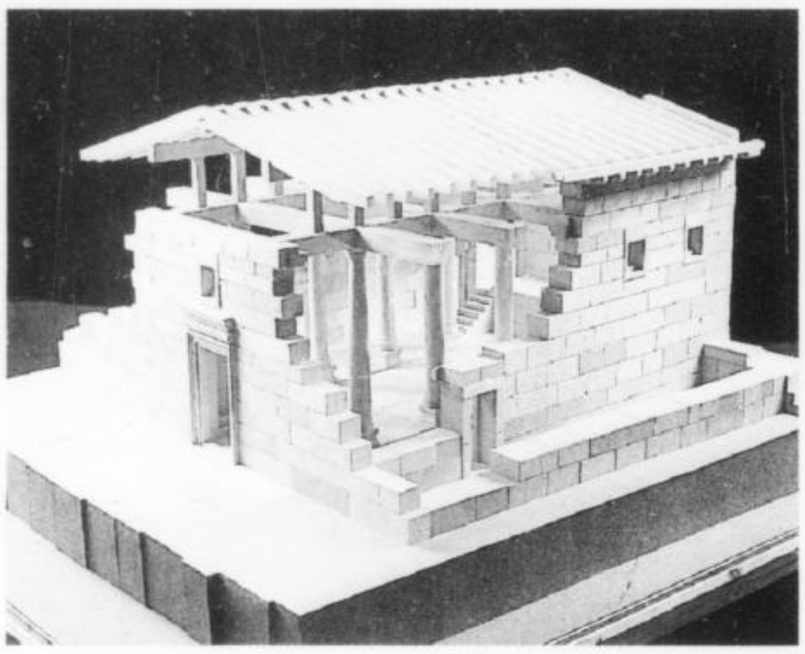
The building of synagogues

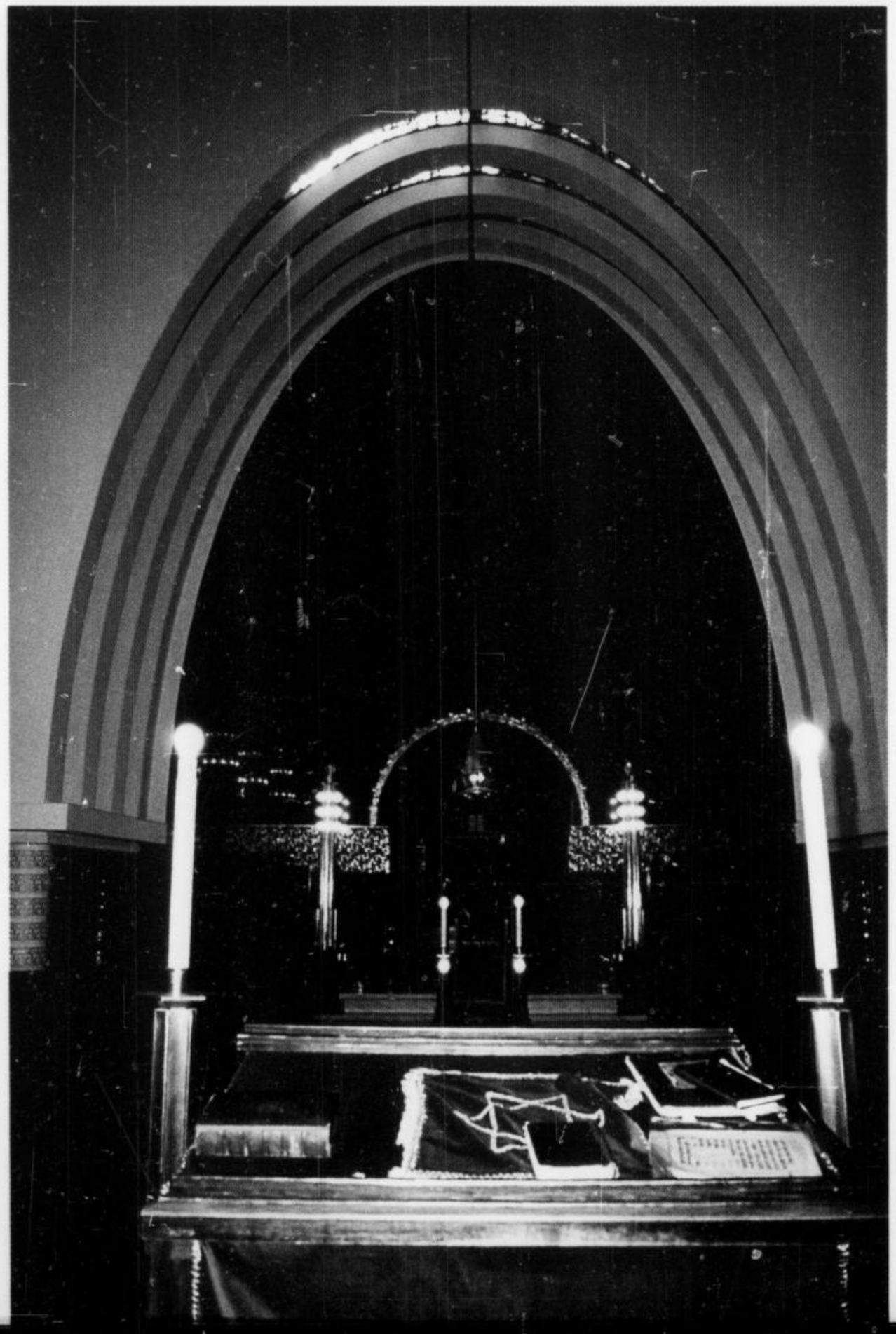
As the synagogue was a post-Biblical institution, there were no precise instructions for the manner of its construction. A single reference in the Talmud* lays down that a synagogue should be built on high ground and should be higher than the buildings around it. From the Old Testament *Book of Daniel* we can deduce that windows were considered indispensable for prayer, since they enabled those praying to contemplate the heavens, which inspired them with reverence and devotion. Daniel also turned towards Jerusalem when he prayed, and this was to have considerable influence on the layout of synagogues.

Although synagogues had to be oriented towards Jerusalem, the architectural responses to this imperative varied considerably during the early centuries of the Christian era. At the beginning, the main façade of the building faced Jerusalem. In buildings constructed on this plan no indication has been found of the siting of the Holy Ark containing the Torah, which was supposed to be kept either in an adjoining room, or outside the synagogue to which it was brought for the reading of the Law. From the third century onwards, there was a definite change in the layout of synagogues and the orientation of the building was determined by the position within it of the Ark.

In *The Antiquities of the Jews*, the historian Flavius Josephus (37-100 AD) mentions the practice of building synagogues near rivers or the sea so that a room for ritual ablutions could be added to the place of prayer.

The emergence of the synagogue represented a fundamental break with the Temple cult. It marked the transition from rituals performed exclusively by the High Priest and his assistants,





Right, the German Synagogue at Venice, Italy (16th century). Below left, model of the Synagogue of Gush Alav (Galilee, 3rd-4th century), in the Israel Museum, Jerusalem. Below, brick-built synagogue, New South district of Amsterdam, the Netherlands (c. 1930).

the Levites, to a form of collective service. This movement from sacrificial ritual to prayer had certain social effects, since the various parts of the cult offices—the reading of the Law and prayer—could, from then on, be conducted by any adult male believer and required no priesthood.

The synagogue became a centre of social life. Flavius Josephus noted that the faithful gathered not only to hear the reading of the Law and to pray, but also to discuss problems concerning the life of the community. In the great synagogue at Alexandria, the men were seated according to their trade. The spinners, silversmiths and smiths had their assigned places and any man entering the synagogue knew immediately where to find his colleagues. The synagogue was also a centre of intellectual life and became known as the *bet ha-midrash,* or house of study.

Generally speaking, the essential nature of worship at the synagogue meant that the elements of architectural style were of only secondary importance, and these were often borrowed from the surrounding buildings. Leaving aside these local influences, however, there can be said to be a truly synagogical style with its own internal organization and iconography.

The Temple of Solomon, which was based on the traditional layout of the sanctuaries of Canaan and on the model of the Tabernacle, consisted of three successive areas—the vestibule, or *ulam,* the main room, or *hekhal,* and the Holy of Holies, or *devir,* which only the High Priest could enter. In addition, there was a gradation between the areas allocated to women, to men and to the priests.

LAURENCE SIGAL,
of France, is curator at the Museum of the Art and History of Judaism in Paris. Her main interests are philosophy and the history of art and religion.

In the synagogues, however, where the whole assembly of the faithful participated in the liturgy, the architecture of the interior was organized around two key points—the Holy Ark and the *bima,* or pulpit, at which the scrolls of the Law are opened and read.

The Holy Ark is in full view of all, indeed it cannot but be seen, since it is placed in the direction to which the faithful turn in prayer. It is set in a recess or in a dominant position on a dais, and forms both a real and a symbolic link between the faithful and their prayers—the earthly Jerusalem and, through it, the heavenly city.

Ever since the Middle Ages the *bima* has occupied a central position, which it retains whatever may be the constraints of space, with the Holy Ark being always placed against the east wall. Its position is the physical expression of the change in form of the service—the faithful form a circle around the centre of the synagogue and take turns to approach the *bima.*

Ornamentation

The early centuries of the Christian era saw a transition from ornamented exteriors to ornamented interiors. This was a response to legislation hostile to the spread of Judaism. About a hundred years after the death of the Roman emperor Constantine the Great (288-337 AD), Jews were forbidden to build new synagogues or even to restore existing ones, unless they were liable to collapse. The profuse sculpted exterior ornamentation of the early synagogues gradually came to be abandoned, while interior floor mosaics started to appear, the richest of these dating from the fifth and sixth centuries.

The rabbis were far from being systematically opposed to the pictorial expression of the teachings of the Bible. In this respect, at least in ancient Palestine, synagogues opened the way towards the decoration of churches. Specific religious themes began to appear alongside naturalistic and pagan subjects and geometric motifs borrowed from Hellenistic mosaics.

The spiritual links between the Temple and the synagogue and between the Ark of the Covenant and the Holy Ark are to be seen in the ornamentation of the cult objects associated with the Torah—the cloth coverings, the silver ornaments and plates recall the robes and ornamental breastplate of the High Priest; the decoration of the Holy Ark—which often consists of pillars and a curtain, deriving from the veil that partitioned off the Holy of Holies—recalls the furnishings of the Temple. In general terms, the recurrent presence of architectural motifs in Jewish cult objects (Hanukka lamps, incense boxes) leads one to believe that they too have a symbolic meaning, referring back once more to the building of buildings—the Temple. ■

* The Talmud is the most important work of Jewish post-Biblical literature. It is held to be the authentic interpretation of the Law of Moses, the Torah.

Hub of the Islamic community

BY CHRISTIANE NAFFAH

ANY religious building, when a believer sets foot in it, becomes the "centre of the universe". The mosques that have been built over the past thirteen centuries in countries as far apart as Spain and India are a magnificent illustration of this.

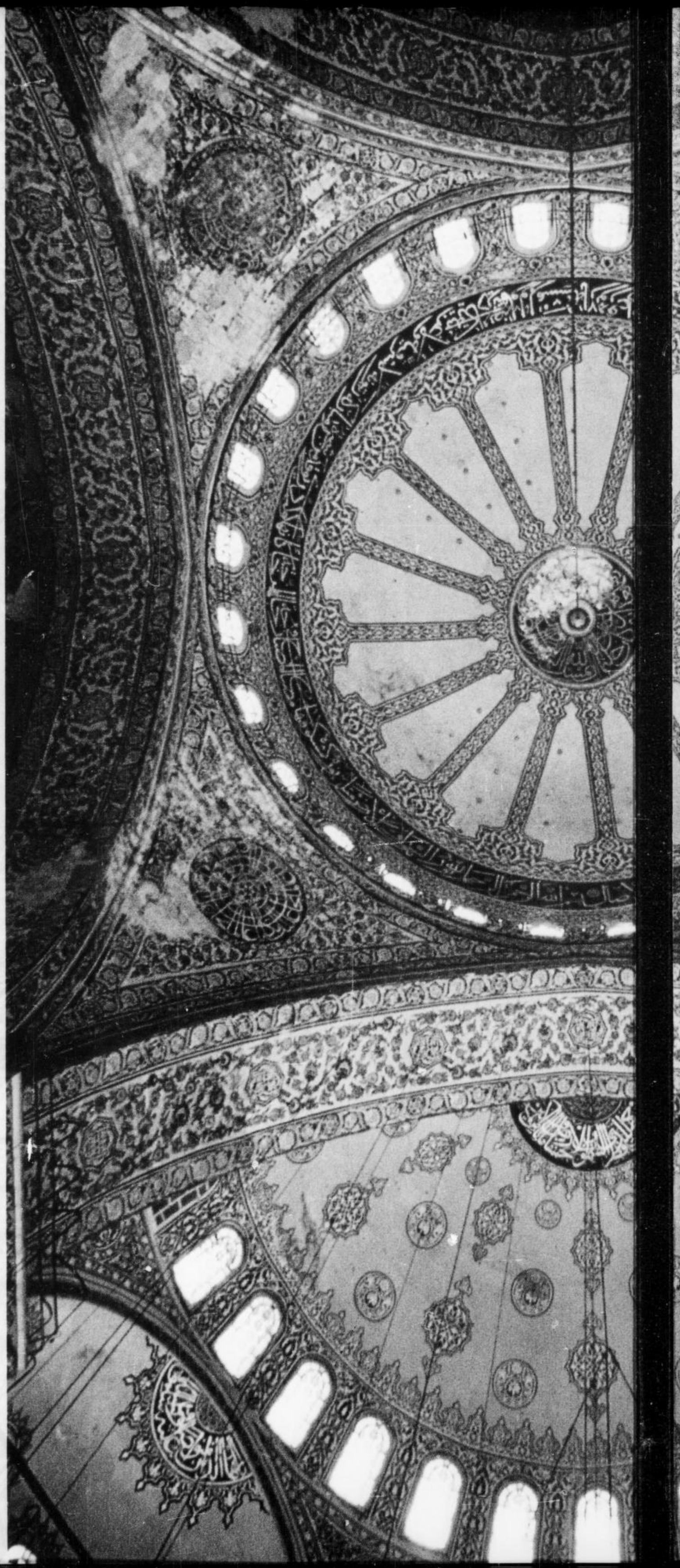
Mosques are places of worship and also, to some degree, centres of cultural activity. A wide range of subjects are taught in them, from the Arabic language and the Islamic religion to law, geography, medicine and astronomy. Their links with authority, with powerful and devout public figures, set them at the hub of a network of social institutions, such as hospitals, hospices, almshouses, colleges and schools.

But their location in the heart of the city, surrounded by the bazaar and its multitude of craftsmen, the starting or culminating point of the vast urban spiral, bears witness to their immediate, essential and universal role, which is to beat in time with the pulse of Islamic communities in countries all over the world.

The Five Pillars of Islam

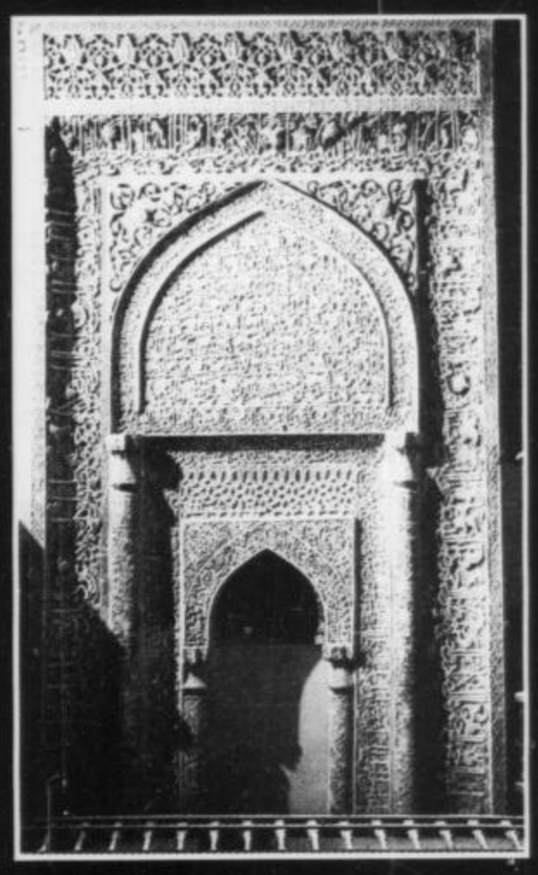
Mosques are dedicated to prayer, the most important of the five obligations which constitute the "Five Pillars of Islam". Individual prayer culminates in the gesture by which Muslims prostrate themselves and touch the floor with their foreheads. The word "Muslim", which means "one who submits to God", takes its significance from this act of submission. Wherever believers may be, they perform that act five times a day.

Collective prayer in a place of worship, with at least forty people present, strengthens the links between the community, the *umma*, which is bound together not by ties of blood like a tribe, but by faith. The great mosque in which these



The mosque

At the heart of the Islamic city, the mosque is not separated from everyday life but integrated into it

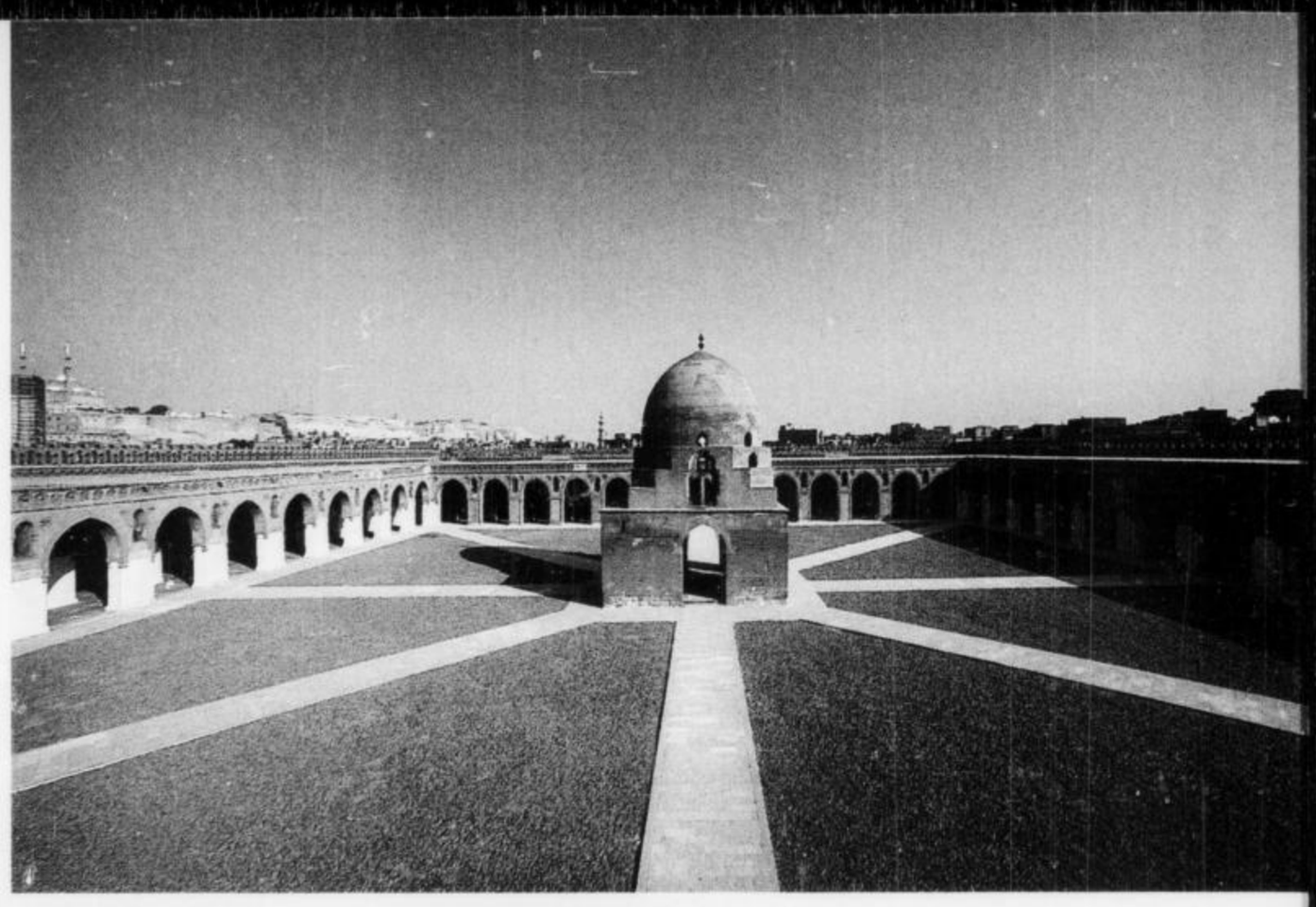


Above, stucco *mihrab* of the Masjid-i Jum'a ("Friday mosque"), Isfahan, Islamic Republic of Iran (1310). Left, dome of the "Blue Mosque" of sultan Ahmed at Istanbul, Turkey (1609-1616).

prayers take place is known as the *jami*, from the word *jum'a* (gathering), which also designates the day for those prayers, Friday—*ium el jum'a*—the day of gathering.

The prayer of the Prophet

In 622 AD, on his arrival in Medina, the Prophet had the first mosque built so that his community of the faithful could assemble without being disturbed. A space was cleared to form a kind of courtyard. Walls made of sun-baked bricks were erected on stone foundations, with three openings framed by stone uprights. At the beginning, the Prophet and the faithful turned towards Jerusalem



Above, the Mosque of Ibn Tulun, Cairo (876-879). The ablutions fountain stands in the centre of the courtyard. Left, prayer-hall of the Great Mosque of Kairouan in Tunisia (836), which has 17 naves.

to pray and hence, for some time, the direction of prayer, the *qibla,* continued to be perpendicular to the north wall of the building. Two rows of palm-tree trunks supported a roof made of clay and palm-leaves to provide shade.

This sanctuary made of earth and palm trees, of areas of shade and sunlight, was meant to express the immateriality of a building dedicated to prayer. Many oratories of this type were constructed at places where the conquering armies halted. At the outset, they were completely bare of decoration.

In cities that had been conquered, mosques were sometimes housed in earlier shrines or were built on the sites of traditional places of worship. Simple geometrical shapes, such as rectangles or squares, were used. Gradually, however, a variety of factors relating to the liturgy, the climate or local traditions came to influence the design and construction of mosques. In aesthetic terms, a significant step was taken in the eighth century, with the emergence of the architecture of the caliphate, an imperial style enhanced by contact with earlier civilizations.

After breaking with the Jews of Medina, Muhammad turned the *qibla* away from Jerusalem to face Mecca, so that it became perpendicular to the south wall.

Spiritual and temporal

The Prophet's apartments, and notably the rooms of his wives, gave onto the courtyard of the mosque, which soon became a communal area used for a variety of purposes such as tending the wounded, resting, discussion and even guarding prisoners. At this headquarters of the new community, Muhammad led the prayers and preached sermons, urging obedience to the one and only God and the precepts of social order. Here he exercised his function as the religious and political leader of Islam.

In the mosque at Medina, the Prophet sat facing the congregation on the *minbar,* a kind of pulpit set in the centre of the *qibla* wall. The *minbar* was made of tamarind wood and consisted of a seat on a two-step dais. Its right upright

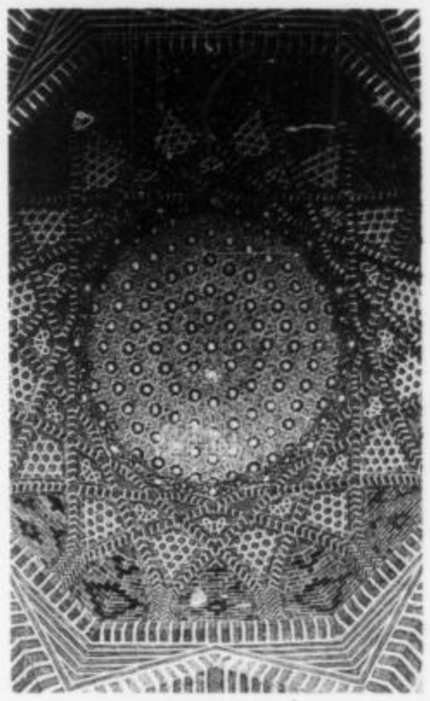
CHRISTIANE NAFFAH,
of France, was formerly curator of the Islamic section of the department of Oriental Antiquities at the Louvre, and has been since 1987 director of the Museum at the Institute of the Arab World, Paris. She has published many articles on Islamic art.

was surmounted by a small silver socket, which was probably intended to contain the spear which the Prophet held out before him to mark the direction in which to pray. Later, the person preaching the sermon, the *khutba,* would hold a sword or battle-standard. And while it is true that there are no clergy in Islam, the *imam* leading the prayer is, in fact, the spiritual, temporal and military leader of the community.

The *minbar* therefore represents the merging of civil and religious power. From the aesthetic standpoint, it was one of the first religious symbols to be extensively changed. Its height was raised and it was fitted with doors and a dome, thereby conferring an aura of sanctity on the person sitting in it.

The *qibla* wall contains a hollowed-out niche or recess known as the *mihrab,* which indicates the direction of Mecca. After the Prophet's death, it came to symbolize his presence and, through him, the presence of God, whose envoy he was. There has to be a *mihrab* in every mosque.

This recess is surmounted by a dome, a shape which has symbolized the celestial vault ever since Antiquity. It must not contain any statue or image of the Prophet. In fact, figurative representations are forbidden in Islam since God alone has the right to instill life into a figure and any attempt to measure man's work with that of God would be sacrilege. Even so, the decoration of the *mihrab,* the Holy of Holies, is exceptionally rich and often extends to the wall surrounding it. It



Above, dome of the Shah Jahan Mosque, Tatta, western Pakistan (1647).
Below, the Badshahi Mosque at Lahore, Pakistan (1674).

is culturally revealing as a reflection of the dominant artistic current in each locality.

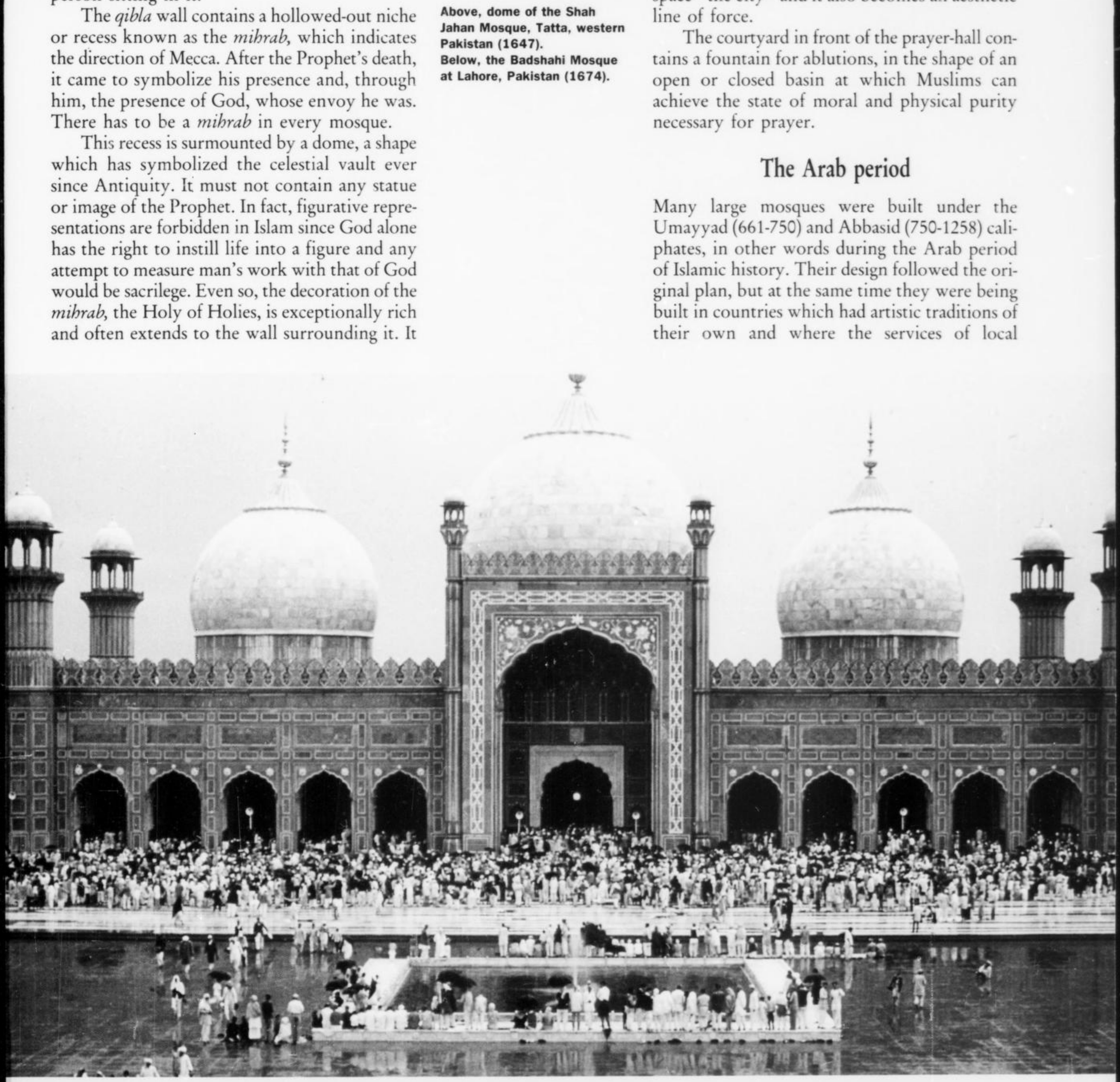
Mosques are closed-in buildings whose main façades are on the inside, round a courtyard or along the side of the prayer-hall. This introverted form of architecture isolates the Muslim community in an enclosed space.

The mosque is usually flanked by a tower, or minaret, in some cases more than one, from the top of which the muezzin calls the faithful to prayer. Its function and shape are largely influenced by those of Christian bell-towers and the towers of Byzantine fortresses. It is a symbolic line of force, which provides communication between the inner space—the mosque—and the outer space—the city—and it also becomes an aesthetic line of force.

The courtyard in front of the prayer-hall contains a fountain for ablutions, in the shape of an open or closed basin at which Muslims can achieve the state of moral and physical purity necessary for prayer.

The Arab period

Many large mosques were built under the Umayyad (661-750) and Abbasid (750-1258) caliphates, in other words during the Arab period of Islamic history. Their design followed the original plan, but at the same time they were being built in countries which had artistic traditions of their own and where the services of local



craftsmen were enlisted. Hence, the Islamic art and architecture of this period bear the mark of the civilizations which had flourished in those countries, and the plans of mosques evoke those of Christian basilicas, Byzantine palaces or Persian audience chambers. Local traditions would again dictate the evolution of the mosque in the centuries that followed.

In Syria, the Great Mosque of Damascus was built in the eighth century on the site of a temple dedicated to Jupiter, which had become the church of St. John the Baptist in the intervening period. The ground plan is rectangular, in keeping with the celebrated Golden Number of the architects of Antiquity. The central nave, oriented in the direction of Mecca, is higher and wider than the side aisles, thereby stressing the majesty of the building and its political role as the Great Mosque of the Empire. Next to the *mihrab*, a dome marks the enclosure reserved for the sovereign inside the prayer-hall. Byzantine influence can clearly be seen in the structure and in the geometric and plant motifs of the decorative mosaics.

In the same way, the T-shaped plan of the prayer-hall of the Great Mosque of Kairouan in Tunisia (836) is reminiscent of the transept of Western churches. The same influence can be seen in the Great Mosque of Cordoba in Spain (785).

In Iraq, the Abbasid dynasty founded its capital in Baghdad and then transferred it to Samarra between 833 and 889. The Great Mosque is built of hollow bricks, the local material. Its plan is strictly modelled on that of the mosque of Medina. By contrast, its spiral minaret is inspired by the ziggurats of Mesopotamia. In Cairo, the simple plan and balanced proportions of the Mosque of Ibn Tulun (876-879) reflect a desire to return to the sources. Like the Kairouan mosque, the building has the strength and sobriety of Western Cistercian art. These two mosques are the expression of the spiritual message of a religion reduced to essentials and without any hierarchy.

Persian and Turkish mosques

In Persia, under the Seljuk dynasty from the eleventh century onwards, a new design was introduced and became the predominant model. This is the mosque with four *iwan*, opening onto a central courtyard. The *iwan* is a vaulted hall, closed on three sides. It is a kind of monumental porch symbolizing the opening into the divine world. Whereas Arab mosques were built by a process of accretion, these mosques were constructed symmetrically around a central point and their plans are clearly recognizable from both the outside and inside of the building. The *Masjid-i Shah* or royal mosque in Isfahan (early seventeenth century) is a notable example of this strong architectural unity.

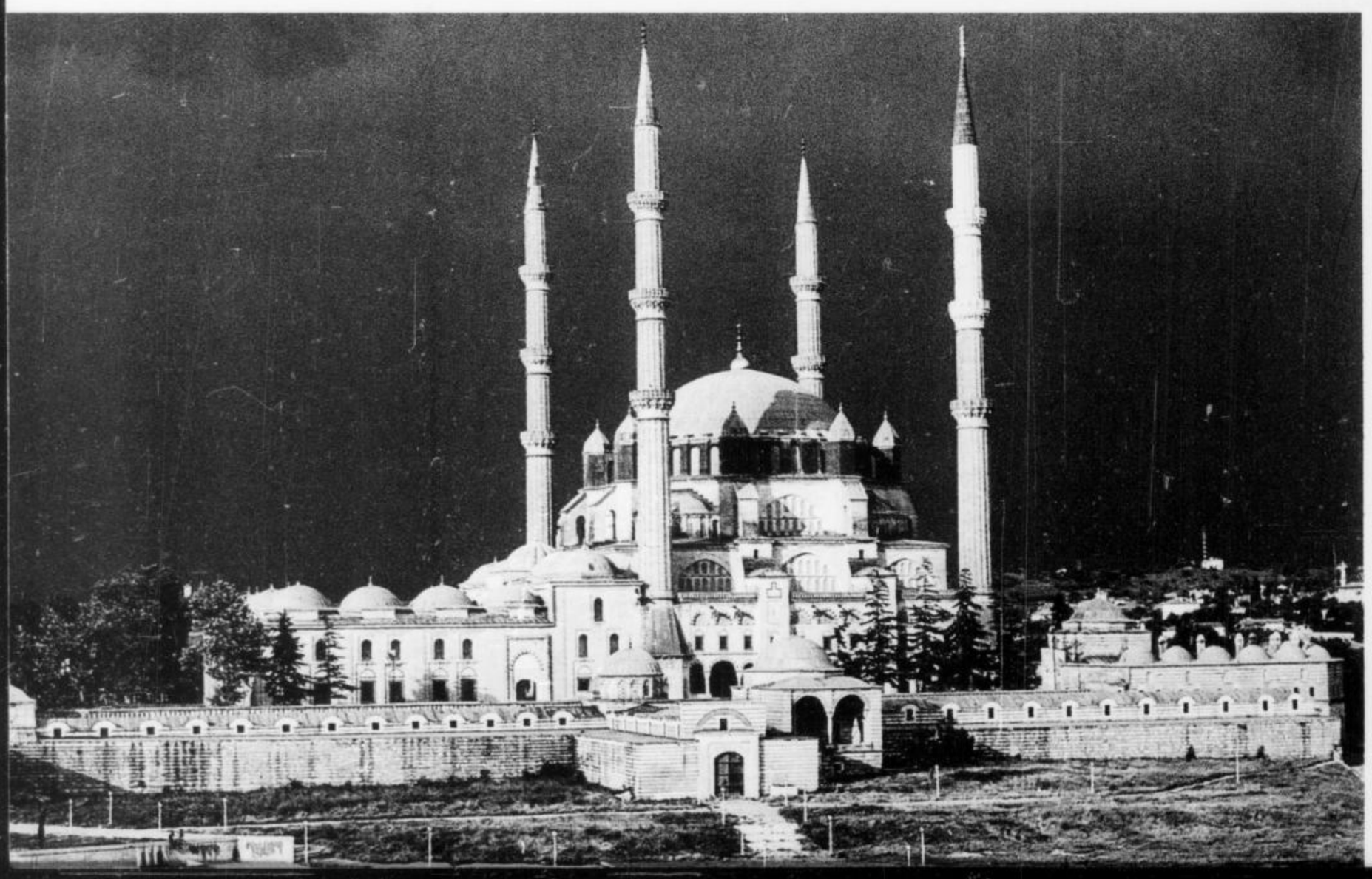
In India, where Iranian influence can be seen in the structure of minarets and entrance portals, an original plan was introduced during the Moghul period in the Great Mosque of Delhi which was built in 1650. Indian mosques usually have a relatively small prayer-hall surmounted by a dome, and a far larger courtyard. They are designed for receiving large congregations and for a climate that is suited to holding prayers out of doors.

Ottoman mosques are of a distinctive type and are built on strict geometrical lines around a central space. The transformation of the Christian space of the Saint Sophia basilica in Constantinople into a Muslim space inspired Mimar Sinan, the architect of Suleyman the Magnificent in the sixteenth century, to produce authentic imperial designs. With their sophisticated intertwined domes and half-domes, his mosques magnify the power of the sovereign, the shadow of God on earth.

Whether Arab, Turkish or Persian, the mosque is a microcosm which believers must intuitively decipher through their faith. In the words of the Qur'an:

We show the signs to those who understand. ■

The Selimiye Mosque at Edirne (formerly Adrianople), Turkey, built between 1569 and 1575 by the architect Sinan.



The cathedral

Soaring lines and the play of light and shadow endow cathedral architecture with an ethereal quality

Above, spire of the west tower, Ulm Cathedral, Germany (founded 1377). Completed in 1890, the 161.53-metre-high edifice is the highest church tower in the world.

A realm of light

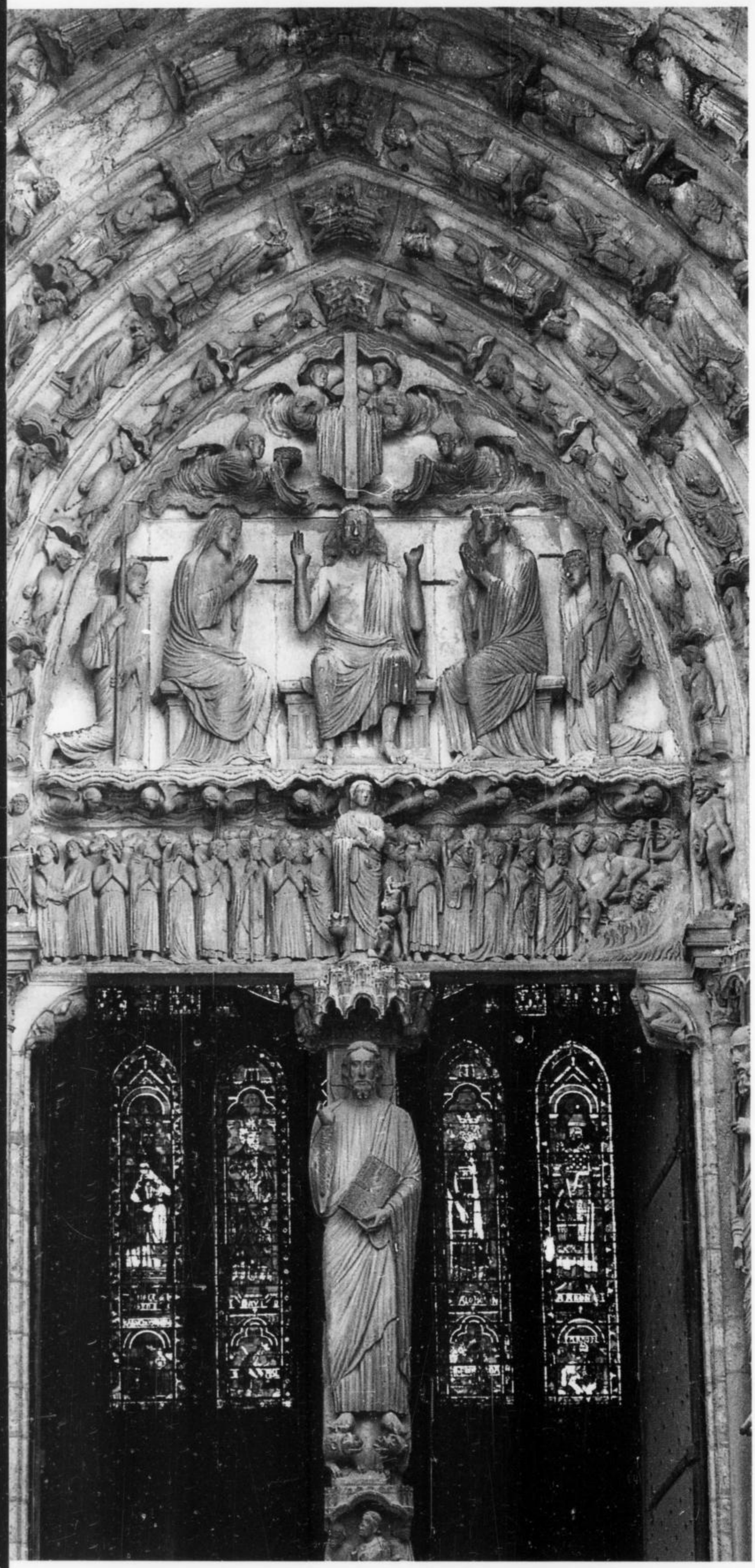
BY ALAIN ERLANDL BRANDENBURG

THROUGH its history, through all it stands for and through the Christian miracle renewed there each day, the cathedral church is the sublime expression of the Catholic faith. Although it has undergone many changes down the centuries it remains faithful to its original purpose of assembling around a bishop the community of believers who share his faith. At a very early stage it became known as the *ekklesia,* from the Greek word used to designate that assembly. It is there that the bishop celebrates Mass, during which the bread and wine are transformed into the body and blood of Christ, the Son of God, who came into the world to atone for man's original sin through His martyrdom on the cross and to form a new covenant with him. The church expresses this holy covenant in its architecture and in the service which is celebrated there.

We know little of early Christian places of worship because they were kept secret to avoid persecution, a situation that was only changed when the new religion was recognized by the Roman state. On 28 October 312, the Roman emperor Constantine the Great accepted the Christian faith before he went into battle against his rival Maxentius. First tolerated then actively promoted, Christianity soon became the official religion of the Roman empire.

This decisive event in the history of the Church was the acknowledgement of a situation which could no longer be concealed. The new faith was powerful and was expanding very rapidly, especially in the towns and cities, among all classes of society. Provision now had to be made for the celebration of a religion which no longer had to keep itself hidden. A new architectural design was drawn up at the imperial court and, promoted by the emperor's entourage and

ALAIN ERLANDE-BRANDENBURG, French archivist and palaeographer, is president of the French Archaeological Society and assistant to the director of the French National Museums. He has written many books and articles on medieval art, including *La cathédrale d'Amiens* (1982), *Chartres* (1986) and *L'Europe Gothique* (1987).



especially by his mother, St. Helena, was adopted throughout the Roman empire.

The design had to take the requirements of the liturgy into account. As in all initiatory religions, the Christians—those who had received the baptismal sacrament just as Christ had been baptized in the River Jordan by St. John the Baptist—had to be separated from the catechumens, whose initiation into the mysteries of the religion required an extremely long preparation ending, as it did for Christ Himself, at the age of thirty. Provision thus had to be made for two adjoining yet separate buildings.

The imperial architects drew up plans for two types of building, the baptistery and the basilica. The former was designed on a centralized plan with a basin sunk into the floor where the catechumen would be immersed to receive baptism. It would be surmounted by a dome resting on a lofty drum which was pierced with window openings and supported by arcades giving onto an ambulatory. This very simple, graceful building would be bathed in light and lavishly decorated.

Abundant light and magnificent decoration were also typical of the basilica, but on a much grander scale in order to accommodate the congregation assembled around the Lord's Table upon which the bishop celebrates Mass. Inspired by the secular basilicas of the ancient world, and adapted to its new purpose, the building was to consist of a central nave with three or five divisions for the congregation. The arms of the transept were to be built at right angles to the nave, forming a cross. The apse would house the bishop's throne (cathedra), which in time gave its name to the whole building. The general layout, as flexible as that of the baptistery, could be adapted to the needs and customs of different communities. This explains why it was so successful throughout the Roman empire.

The light of God

Artistic efforts were concentrated on the interior of the building. The exterior typically consisted of plain unembellished masses. The powerful dynamic effect achieved in the interior was based upon a single principle: the columns supporting the great arcades and architraves, the ceiling and the floor decoration should all combine to draw the eyes of the congregation to the altar. Light filtering through the many openings high up in the walls should accentuate this horizontal tension. Reflected by the marble or alabaster partition walls, it would flood through the entire building, and reverberate from the marble paving, the mosaic-covered walls and the colonnades.

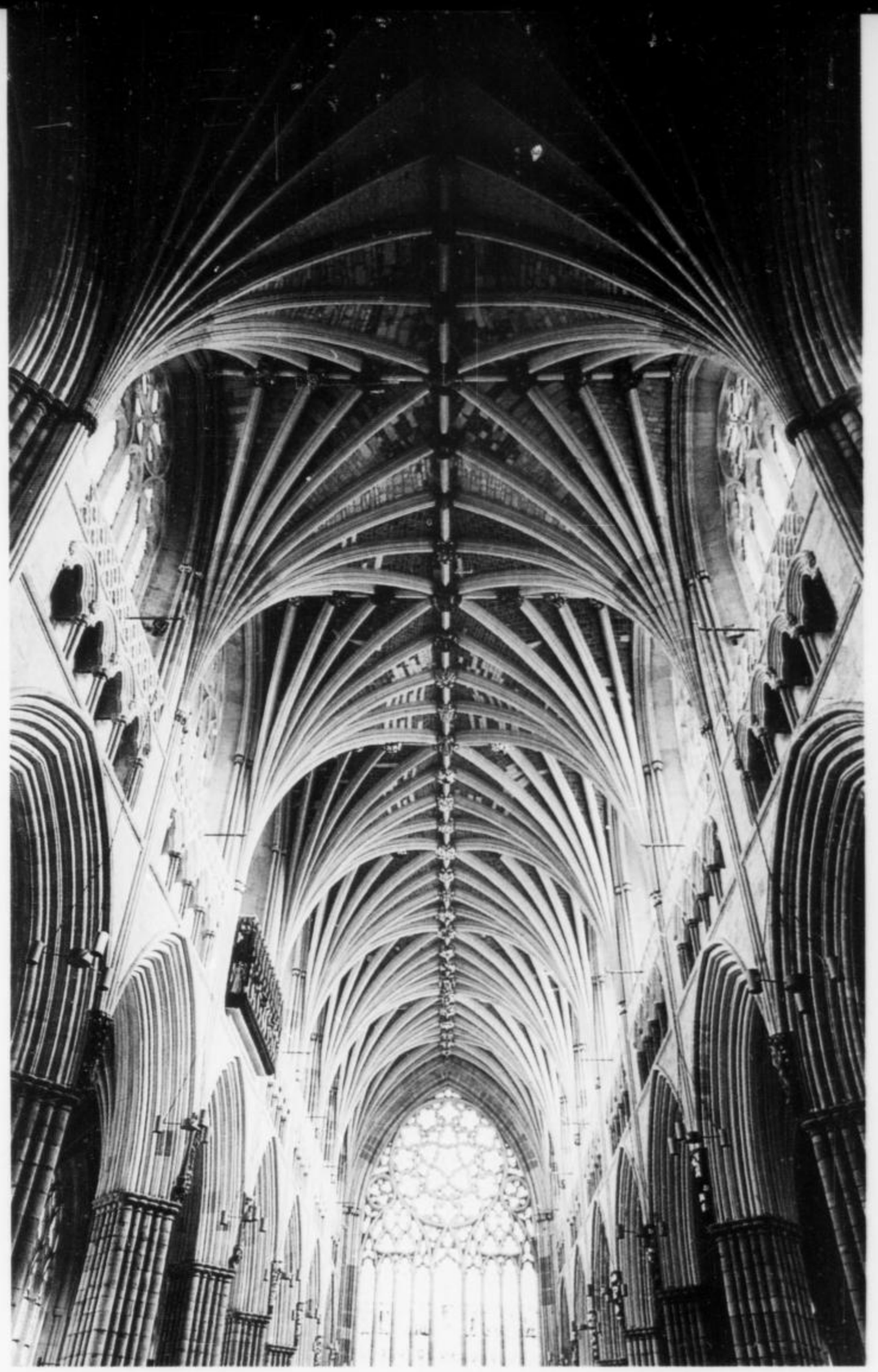
This new use of light, far from being purely aesthetic, was a response to the significance given to it by Christians, for whom light emanates from God. The apse was given special treatment to emphasize its position as the focal point of the building.

The masterbuilders of the fourth century achieved a kind of dematerialization of architecture which must have made a powerful impression on their contemporaries, who were accustomed to heavy, dark, inward-looking buildings. The Christian basilica is open and outward-looking. Its columns do not compartmentalize the internal space but punctuate it at rhythmical intervals. It has so many windows that the link with the celestial world can be made without difficulty. As the faithful enter the building, they enter a world which ceases to be material and becomes spiritual. Imbued with the presence of God, they participate in the miracle of the Eucharist celebrated by the bishop.

The church has remained faithful to this initial design, with variations, throughout its history. Aesthetic transformations sometimes reflect social changes, and sometimes new choices. As Christianity spread to the population at large, the question of the age of baptism began to be raised in Western Europe. In Carolingian times it was decided that baptism would take place in childhood. Separate buildings were no longer needed for those who had not been baptised.

Also, following a major reform of the episcopal administration initiated in the eighth century, the bishop's entourage of clergy were obliged to live in a community under a rule. Those who did so were known as canons or canonical clerks. In the eleventh century Pope Gregory VII instigated further ecclesiastical reforms to regulate relations between the lay and clerical communities. In towns and cities whose old walls (for the most part built during Antiquity as protection from barbarian invaders) had survived, the episcopal palace and the canons' cloister became an integral part of the cathedral complex.

In the second half of the twelfth century, as the bishops became independent of the secular power, they took their destiny, and that of their Church, into their own hands. They had to face a new challenge, that of a rapidly growing population, especially in the towns and cities. The old walls were breached to make more space. As the numbers of the faithful grew, massive buildings were needed to accommodate them. In many cases cities had to be reshaped to adapt to the new situation. In Paris the eastern end of the Ile de la Cité around the Cathedral of Notre-Dame was transformed after 1670. Some buildings were moved to different sites, streets were opened up, and houses were demolished. Similar changes took place in other French towns such as Laon, Reims, Rouen and Beauvais.



Above, nave of St. Peter's Cathedral, Exeter, United Kingdom (begun c. 1275). Below, the Temppeliaukio Church at Helsinki, Finland (1969).
Opposite page, the south portal of the Cathedral of Notre-Dame at Chartres, France (1215-1240). It is known as the portal of the Last Judgement and of Mercy. The windows of the north transept can be seen through the open doors.

The 'Temple of the New Covenant'

Firmly anchored in the historic heart of the city, the cathedral took on a new significance. Bishops had to find new solutions for a population whose ideas were changing. Although the cathedral was still the "Temple of the New Covenant" between God and His people, the language expressing this link had to be brought up to date. Determination to transmit a clearer message to the faithful would be expressed in architecture and iconography.

The style of a façade facing towards the city, with three portals and a tower each side, was adopted in Paris, Laon, Sens, Bourges, Reims and other French cities. A courtyard, usually quite

small, marked the transition between the profane world of the city and the diocese and the sacred world of the cathedral. The façade was decorated with sculptures which bore a powerful message. The iconography was diversified, and the themes depicted gradually became more humanized.

Spires, massive stonework and other external features were also a response to the cathedral's relationship with the city. A cathedral had to be visible from a distance, and no other building was allowed to compete with it. At a time when there were few stone buildings and houses were no more than one or two storeys high, the cathedral towered over its surroundings and gave an identity to a community whose members shared the same faith.

The cathedral became the rallying point for the members of a diversified community. The nave had to be capable of accommodating all the faithful of the diocese, even though in practice this has never been necessary. The choir, usually an extension of the nave beyond the transept, was reserved for the canons and their communal life of prayer. The sanctuary housed the Holy of Holies, the high altar at which the bishop alone could officiate. The arms of the transept led towards the episcopal palace and the canons' cloister. Barriers separated the different parts of the building. A rood screen stood between clergy and congregation, and there was a movable curtain between the choir and the body of the church, but these divisions were not enough to destroy the unity created by the architectural style.

The concept of unity inherited from Christian Antiquity was given new expression. In the cathedral Gothic architects sought to fuse different areas which Romanesque architects had tended to compartmentalize and juxtapose, and to achieve this purpose they exploited the unifying role of light. The difficult problem posed by the heaviness of stone roofing was eventually solved by the invention of the ribbed vault which concentrated the thrust at precise points. It became possible to reduce the thickness of the walls between the vertical supports, to build them higher and pierce them with many windows. The building was suffused with light which, as it filtered through stained-glass windows and fell on curved surfaces, produced elusive patterns of shade but unified the internal space.

The architects of the twelfth and thirteenth centuries tried to achieve the same goal as their predecessors in the fourth century, albeit through different aesthetic choices. They sought to create cathedrals in the image of the heavenly Jerusalem described at the end of the *Book of Revelation.* Descending out of heaven, it is the "tabernacle of God among men", resplendent with the most precious stones. ■

Vaulting of Cuzco Cathedral, Peru (1582-1654).

■ ■ ■

Punctuality pays off

A record-breaking 1,285,000 visitors attended the Van Gogh exhibition held this year in Amsterdam and Otterlo, the Netherlands, to mark the centenary of the painter's death. A system of advance ticket sales, being tried out for the first time in Europe, controlled the stream of visitors by fixing not only the day but the time of entry. Representatives of several European museums came along to study the working of the new system.

■ ■ ■

Saving the leatherback

The leatherback turtle, a marine species which can grow to over 2 metres long and weigh up to 500 kg, is threatened with extinction. Its only known breeding grounds are a 40-km-long stretch of beach on Mexico's Pacific coast and a sandy strip less than 3 km long on the French side of the River Maroni which forms the boundary of French Guiana and Suriname. The local authorities in French Guiana and the World Wide Fund for Nature (WWF) have launched a project to mark the turtles that come ashore to lay their eggs, and to transfer the eggs to hatcheries. The sex of the baby turtles can be determined in advance by the temperature at which the egg is incubated (higher than 29.75° for females, under 29.25° for males).

■ ■ ■

World Summit for Children

Over 60 heads of state and government attended the first World Summit for Children which was held on 29 and 30 September 1990 at United Nations headquarters in New York. The summit, organized under the auspices of UNICEF, the United Nations Children's Fund, sought the commitment of world leaders to act on issues affecting the future of children. Priority was given to the fight against infant mortality, death in childbirth, and basic education.

■ ■ ■

Record-breaking dinosaur

In the Gobi desert, China, a Sino-Canadian team of scientists has unearthed an entire skull and ten fragments of cervical vertebrae from a dinosaur which lived some 140 million years ago and which must have measured over 30 m long. The fossilized remains are those of the largest dinosaur yet discovered.

■ ■ ■

Japanese prize for the arts

Spanish painter Antoni Tàpies, Italian sculptor Arnaldo Pomodoro, British architect James Stirling, American musician Leonard Bernstein and Italian film director Federico Fellini were awarded the Japanese Praemium Imperiale 1990 in London last June. The prize, created in 1988 by the Art Association of Japan to commemorate its 101st anniversary, may be awarded to creative artists of any country. Japanese artists are not eligible for the first three years of the award.

■ ■ ■

In the wake of the *Niña*

Christopher Columbus's first crossing of the Atlantic in 1492 has been retraced in a British TV documentary featuring a replica of his caravel the *Niña*. The crew, which consisted of 18 students from Cádiz Naval College, set sail on 8 June 1990 from Cádiz and arrived at Santo Domingo in the Caribbean on 21 July. Like their predecessors of 500 years ago, the sailors slept on deck and slaughtered animals for food.

■ ■ ■

Child health and nutrition in Egypt

UNICEF reports that all Egyptian children have now been immunized against diphtheria, whooping cough, tetanus and polio. UNICEF has also helped to make drinking water more widely available in Egypt. According to the 1986 census, 95% of the urban and 56% of the rural population had access to clean water. But these improvements have not been accompanied by comparable progress in nutrition. According to UNICEF, 26% of Egyptian children suffer from chronic malnutrition, and 50% of those under six are anaemic. In a country without a food shortage, this is probably due to an unbalanced diet.

■ ■ ■

Art and human rights

Twenty Spanish artists have ceded the reproduction rights to one of their works to the Spanish section of Amnesty International. The works of art illustrate a recent Amnesty publication, "Towards a World without Executions". Printed in colour on high-quality paper, with an introduction by Spanish philosopher José Luis L. Aranguren, the book presents the conclusions of a worldwide report on the use of the death penalty which was published by Amnesty's London office in 1989.

■ ■ ■

Mission to Planet Earth

Space Agencies of many countries are co-operating in the preparation of International Space Year (ISY), 1992. During ISY major efforts will be made within the framework of "Mission to Planet Earth", a theme proposed by the US National Aeronautics and Space Administration (NASA), to use remote-sensing satellites to monitor the oceans, atmosphere and land with a view to better management of the Earth's natural resources and the protection of the environment.

Russian churches

Symbolism in wood and stone

BY MIKHAIL KUDRYAVTSEV

Above, the 15th-century Church of the Dormition of Our Lady, at Varzuga on the Kola Peninsula (northern USSR), with its tent-shaped roof.
Above right, the Cathedral of the Holy Trinity (also known as the Church of St. Basil the Blessed) in Red Square, Moscow, built by Ivan the Terrible in 1555-1560. The polychrome decoration dates from the 17th century.

THE roofs, cupolas and other architectural features of medieval Russian churches are so rich in symbolism that even from afar believers could identify the spiritual idea to which each church was dedicated.

The early chronicles tell us that the oldest Russian churches had more than five cupolas. The cathedral of St. Sophia in Novgorod, built in oak in 989, had thirteen, and the stone church of the Dormition of Our Lady, built in Kiev at the turn of the eleventh century, is reported to have had twenty-five.

The number of cupolas was always significant. Six stood for the unity of the Church Militant and the Church Triumphant in prayer. Five embodied the Redeemer and the four Evangelists, addressing sermons to the four parts of the world. Seven cupolas stood for the mystical number seven, which evoked a wealth of associations including the seven gifts of the Holy Ghost and the seven days of Genesis.

Thirteen cupolas denoted Christ, the embodiment of Heavenly Wisdom, and His twelve disciples, while the figure twenty-five stems from the Apocalyptic presentation of the Holy Trinity through the vision of God on His throne surrounded with twenty-four seats on which twenty-four elders are sitting—the disciples and the prophets.

The renowned ensemble of monuments on the island of Kizhi on Lake Onega in the north of European Russia has two multi-cupola'ed churches and a one-cupola belltower. The total number of cupolas, thirty-three, symbolizes the years of the earthly life of Jesus Christ.

Tent-shaped roofs

The tent-shaped roof has also been a widespread feature of Russian church architecture since the early Middle Ages. Most tent roofs were eight-sided, representing, with their cupola, the mystical number nine. When you look at such a roof from the ground, you usually see the sides of three triangles—again representing the number nine. The roof rising above the centre of the octahedron symbolizes God, the centre of the universe, and is crowned with a cross, the symbol of Christ. The tent-roofed churches of the Dormition at Varzuga on the Kola Peninsula and Kondopoga in Karelia are particularly majestic examples of this style. The roofs symbolize Our Lady enthroned in Heaven and joining Her Son.

Another architectural feature, the use of tiers or storeys, became widespread in the latter half of the seventeenth century. Cubes, octagons and other volumes were arranged in a series of superimposed storeys, gradually tapering towards the top to produce an impression of vertical heavenward movement. The tiers, or storeys, stood for the unity of the Church Militant and the Church Triumphant, with the heavenly structure ascending to the throne of the Creator. The gradual tapering effect reflected the diminishing number of souls acquiring greater degrees of saintliness. As Jesus said, "Many are called, but few are chosen." Churches with elongated storeys which taper only gradually were known as pillar churches. Storeyed and pillar

churches embodied the Christian symbol of Jacob's Ladder, the stages of the spiritual struggle to moral perfection described in *The Ladder of Divine Ascent* by the sixth-century monk St. John Climacus. It is thus not surprising that Russia's most majestic pillar church, the Belfry of Ivan Veliky in the Kremlin, Moscow, should be dedicated to this saint. Its superb set of bells *(blagovest,* the annunciator of blessed news) symbolize the mission of Our Lady as the ladder by which God descended into this world, connecting the Annunciation of the New Testament with Jacob's Ladder of the Old. Stone tiered churches often had sets of bells in the upper tier. Among the finest of them is the church of the Intercession of Our Lady in the Moscow suburb of Fili.

Flamboyant churches, typified by the use of round or pointed arches known as *kokoshniki,* began to be built in Russia in the fifteenth century. At first structural features but later purely decorative additions to the main dome, *kokoshniki* symbolize the tongues of heavenly fire and are a metaphor for the heavenly host. The profusion of these features and the variety of their shapes stand for the variety and number of angels and saints. The main cubic body of the edifice embodied the Church Militant, the upper part with its *kokoshniki* the Church Triumphant, and the cupola above them God, Head of the Church.

The earliest flamboyant churches were built in honour of important historical events, and the first fully accomplished example of the style can be seen in two naves of the Church of the Transformation of Our Lord built in the 1520s on the site of the church erected by prince Dmitri Donskoy to commemorate his victory over the Tatars at the battle of Kulikovo in 1380. In the mid-sixteenth century, victories over the Tatars in Kazan and Astrakhan were commemorated with the addition of four similar naves to the Cathedral of the Holy Trinity in Moscow's Red Square, wrongly known as the Church of St. Basil the Blessed.

Some churches incorporate several styles. The Church of the Transfiguration of Our Lord at Ostrovo near Moscow is a fantastic blend of the tent-roof, flamboyant and multi-cupola styles. The greatest achievement of old Russian architecture, the Cathedral of the Holy Trinity in Red Square, is also a remarkable blend of styles. The whole structure is arranged around the tent-roofed Church of the Intercession of Our Lady, with pillar naves on each of the four sides, a flamboyant nave at each of the four corners, and a sumptuous cluster of ornate cupolas above the whole. The Cathedral is the quintessential expression of the Russian concept of the Christian Church. ■

Ensemble of religious monuments on Kizhi Island, Lake Onega (northwestern USSR). At centre, the wooden cupolas of the Church of the Intercession of Our Lady (1764); right, the 22-cupola Church of the Transfiguration (1714).

MIKHAIL KUDRYAVTSEV,
Soviet architect, is head of the department of medieval Russian architecture and urban studies at the Andrei Rublev Museum of Old Russian Culture and Art, Moscow. This article is based on his joint research with the architect G. Makeyev.

In the past, the
Unesco Courier
has often given coverage to questions relating to the environment and natural resources, fields in which Unesco has been active ever since it was founded. Now, at a time of growing concern about environmental problems, we intend to publish from time to time reports on the major issues involved.
The first of these articles appears below.

Our small blue planet

BY MICHEL BATISSE

HARDLY a day goes by without bringing news of an environmental problem of some kind. What with polluted rivers, disappearing animal species, oil spills in Alaska and the destruction of the Amazonian rainforest, something always seems to be going wrong in the sphere of what we often rather inaccurately refer to as ecology. We are overwhelmed by this constant avalanche of threats and disruptions. We are not sure how important the problems really are and sometimes even wonder whether they exist. In many cases the scientists seem uncertain of their ground and, to the delight of sceptics, their opinions diverge.

Many people claim that they are ready to help safeguard the environment but most of them change their tune as soon as there is any possibility that they may have to alter their habits. Whenever there is a problem, people tend to blame the government or industry, the rich or the poor, often their neighbours but never themselves. Media sensationalism diverts attention from the delicate long-term processes that cause the most significant changes in our complex world. Faced with this mass of highly diversified and widespread environmental problems, we feel that they are linked in some way—but how?

Misunderstanding of the underlying causes of the environmental problems that face both industrialized and developing countries leads to a certain intellectual confusion. Piecemeal measures in specific situations are only partially effective and even sometimes make the situation worse, but do not provide a lasting solution.

A far-reaching concept

The concept of the environment is so vast that we are often inclined to narrow it down. It is not confined to air and water pollution and the protection of nature. When we talk about the environment we refer to everything around us—the homes and workplaces where we spend most of our time and the cities in which more than half the world's population now lives. It also englobes the countryside, forests, countries, oceans, deserts and ultimately the planet as a whole which, as we now realize, is being adversely affected by human activity. The environment is thus not only the so-called natural areas, which have themselves often been shaped to some extent by our ancestors, but the man-made locations in which most people live and work.

This physical environment is objective in the sense that it can be observed and measured. Its functioning and development can be analysed by such sciences as chemistry, geology and biology (especially by ecology, the branch of biology which deals with the relations between living creatures and their habitat). We are all part of this objective environment, and we all perceive it in our own necessarily subjective way. What one person regards as an excessive degree of pollution, another may find acceptable. Such perceptions, whether individual or collective, play an important role in determining both individual behaviour and the action taken by public institutions, since they shape our spontaneous reactions to our physical environment and determine the hierarchy of values we attach to its component parts. Hunting wild animals, for example, has been regarded in different ways by different cultures at different times.

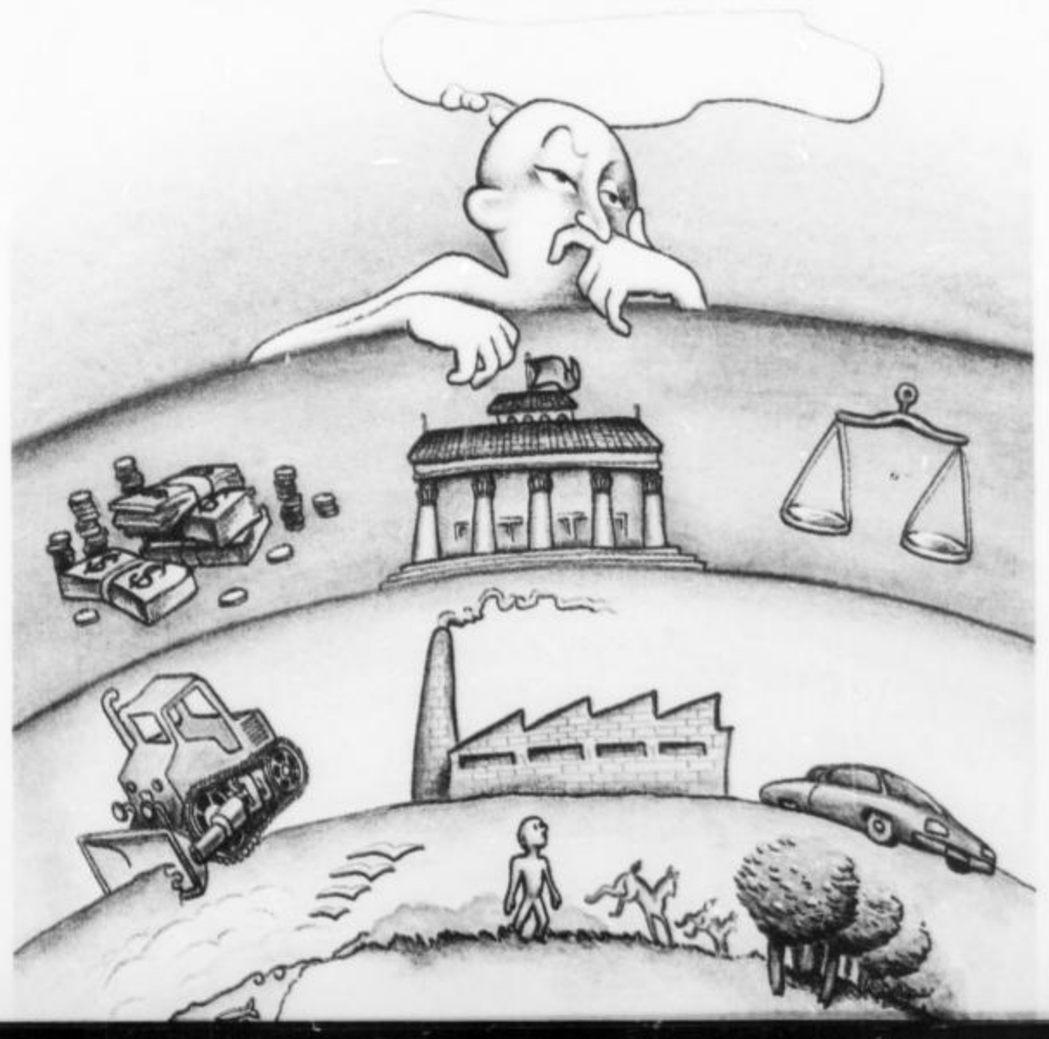
Debates about the environment are often difficult for objective reasons since they involve conflicts of material interest. They are complicated still further by the widely different emotional and cultural reactions of those who take part. This is another reason why we should try to find a common cause.

Biosphere and technosphere

It will be a long time before we know whether forms of life exist in distant galaxies. All the life we know today is confined to what is known as the *biosphere*—the Earth's surface and the thin atmospheric envelope around it. The biosphere includes all the living creatures on land, in the sea and in the lower atmosphere, and all the exchanges and bio-geo-chemical processes that make life on Earth possible. As biological creatures we inescapably form part of it. Assaults on the biosphere may well affect us, and especially our health.

Ever since the dawn of time the biosphere has been a prey to natural phenomena such as earthquakes and volcanic eruptions. Today, however, the most damaging attacks are of human origin. For a very long time our only strength was that of human muscle, but in the last few centuries as a result of advances in scientific knowledge we have learned

The biosphere and some of the pressures on it.



MICHEL BATISSE,
French engineer and physicist, is internationally known for his work on the environment and natural resources. A former Unesco staff member, he was instrumental in launching the International Hydrological Decade (1965-1974) and Unesco's interdisciplinary Man and the Biosphere (MAB) programme. Currently a consultant with Unesco and with the United Nations Environment Programme, he has headed the Blue Plan Regional Activity Centre for the Mediterranean at Sophia Antipolis, France, since it was created in 1985.

to master increasingly powerful technologies. In the last few decades our technical knowledge in agriculture, industry and medicine and in such diverse fields as genetics, energy, transport and health care has spread worldwide and encompassed almost the whole of the biosphere. This phenomenon, which may be called the *technosphere*, is a dense and multi-faceted network of technology from which no place on Earth can totally escape, not even the Antarctic which is affected by air pollution and the intrusion of tourists and oil-tankers.

We use these technologies in what we consider to be our own interests, the interests of the group to which we belong, or those of mankind as a whole. The consequences of this intelligent use of geographical space, natural resources and the processes of life itself have been demographic growth, the improvement of living conditions, and the flowering of modern civilization—the process which is rather loosely described as development. The fruits of this process are irreplaceable and it is inconceivable that they should be rejected wholesale. At the same time, however, the structure and functioning of the biosphere are being affected by a number of unexpected and perverse consequences of this massive use of technology. Of course the more powerful the effects of technology and the more widely it is used, the more the biosphere suffers.

Sociosphere and noosphere

An environmental problem may be defined as an assault of some kind by the technosphere on the biosphere. Such problems may include soil erosion, desertification, deforestation, toxic wastes, acid rain, the possibility of global warming, risks of cancer, high noise levels, deterioration of the urban environment and indeed of any phenomenon that affects the human race. The development process has brought undoubted benefits but, through inadvertence or negligence, it is having increasingly important negative effects on the biosphere and on mankind which biologically forms part of the biosphere. The deterioration of the environment is simply the other side of the development coin, the negative side which has long been ignored.

The technosphere and development are not, however, autonomous. They are the products of another sphere, the *sociosphere*, which consists of the legal, political, economic, social and professional institutions that constitute human society. The sociosphere uses and disseminates technology. It is responsible for the choice of different forms of development. Through the development of the global economy it is slowly imposing a system of planetary management. And so the sociosphere is responsible for safeguarding the environment.

How are decisions taken in the sociosphere? This is a somewhat opaque area where rational analysis is not always possible. It belongs to another sphere, the world of ideas, which may be termed the *noosphere*, and from which cultures, religions and civilizations are derived. It is at this level that, in some mysterious way, our perceptions, behaviour and aspirations about development and the environment are shaped.

This method of studying environmental problems by working backwards from effects to causes shows that all environmental problems have common origins. It also suggests that we should try to reestablish the harmony of the four spheres.

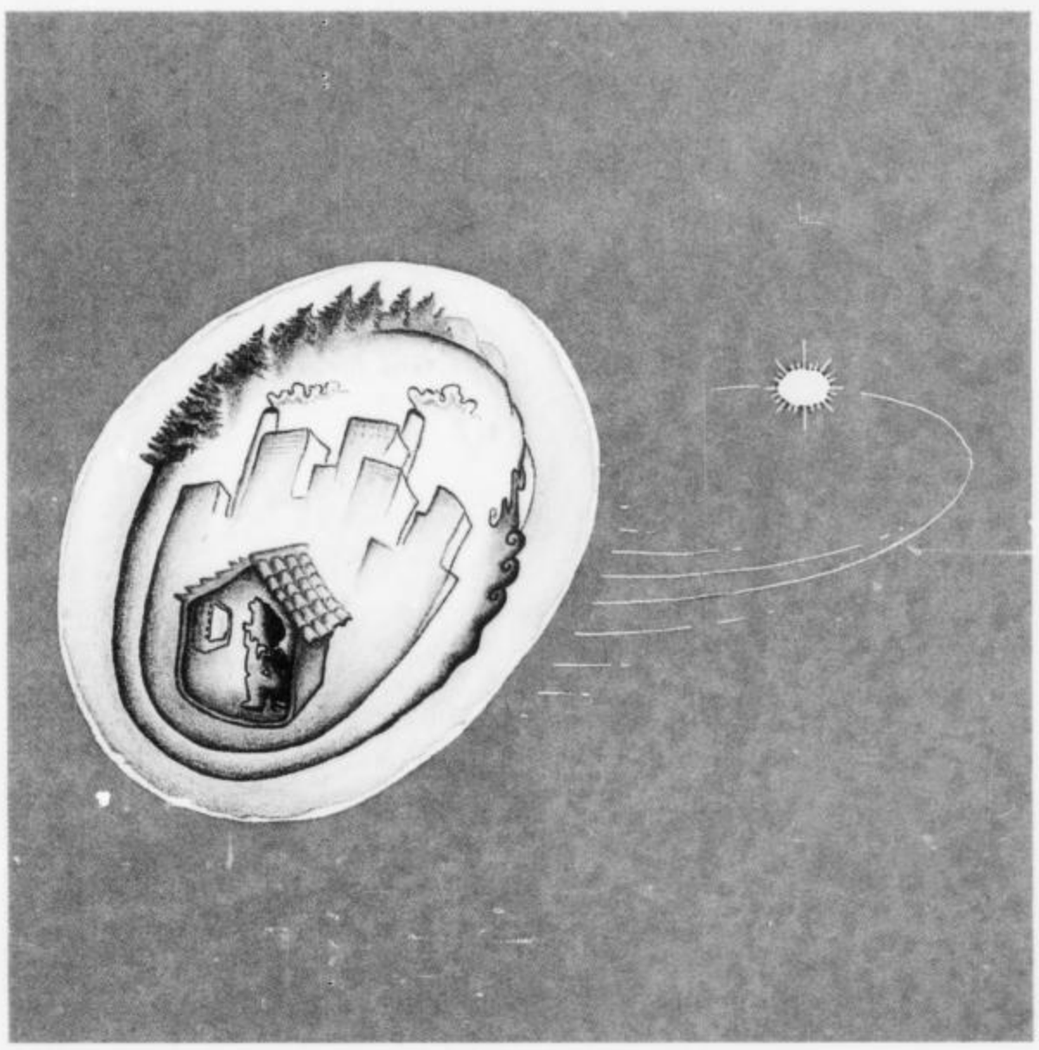
The four pillars of wisdom

Every society organizes its own territory in accordance with its traditions and resources, as if organizing a big household. Each house rests on four pillars, *population* (the number of people living in it), *natural resources* (the goods and services that can be taken from nature using available technology), the *environment* (in its physical sense) and eco-

**Below, a Tibetan valley.
Above right, polluted waters.**

nomic and social *development*. If one pillar rises disproportionately, the house loses its balance. A critical situation soon arises, as we saw recently in the Sahel, where too many people are overburdening a shrinking resource base and the environment is suffering as a result of inappropriate forms of development.

With today's global markets and the speed of modern transport and communications systems, the whole planet is our common home. Conditions are not the same for everyone, far from it, but everyone is involved in the same process. The pillars supporting our common home are starting to lean sideways. The population pillar is still rising dangerously, especially in the poor countries, and is unlikely to stop doing so as long as their poverty persists. The development pillar has become a pattern of frantic consumption of space, energy and goods according to a development model that was invented by the rich countries and is not applicable to humanity at large. Resources such as water and food can barely keep pace with population growth and development needs. They only manage to do so to the detriment of the fourth pillar, the environment, which is under attack from all sides—by dams, fertilizers, pesticides, forest destruction, soil exhaustion and pollution of all kinds, and at the global level the climate and the ozone layer are being affected.



Everyone who has thought about the matter agrees that it is high time we put our house in order. But not everyone agrees about how we should approach the task since in terms of the distribution of wealth all are not on the same footing. The industrialized countries ask the countries of the South to slow down their demographic growth and take care of their environment. The poor countries reply that inequalities in terms of trade must first of all be reduced so that they too can develop, and before the poorest peoples can enjoy the leisure to protect forests and animals. This difficult debate in which each side sends the ball back into the other's court has made only slow progress in the last twenty years. Today however there is a widespread feeling that "our common future" is at stake and that long-term models for the development of the environment and natural resources must be worked out as quickly as possible. This new climate of opinion is encouraging and we must hope that the United Nations Conference on the Environment and Development scheduled to take place in Brazil in June 1992 will lay the foundations for an agreement on this question of vital importance for all the inhabitants of our small blue planet. Major changes will have to be made in the sociosphere and the noosphere and these will not be easily accepted by everyone. In the coming months the *Unesco Courier* will be examining some of the key issues involved in this great debate. ■

Franciscus Skorina,
scholar-printer of the Renaissance

BY M. BOTVINNIK AND V. SHMATOV

FRANCISCUS Skorina, archetypical figure of Byelorussian culture, was the first to translate, provide a commentary, print and publish the Bible in the language of the east Slavs.

He was born 500 years ago into a fur and hide trader's family at Polotsk, a city known to have existed since the ninth century. His education began there, but it was at Cracow University from 1504 to 1506 that he studied the "seven liberal arts"—grammar, logic, rhetoric, music, arithmetic, geometry and astronomy—as well as philosophy.

There is no further trace of him until 1512, when he took his doctorate in medicine at the University of Padua in Italy. Medical practice did not appeal to him, however. Modelling himself on St. Luke, who after healing men's bodies dedicated himself to healing their souls, Skorina embarked on the translation of the Scriptures into the Slavic language.

In 1517, he left for Prague, where he spent two and a half years. His first publication was a psalter, at that time used as a reading primer, followed by his translation of twenty-two books of the Old Testament, which he called "The Russian Bible".

This was a considerable achievement, as the work consisted of 2,400 pages of text, forty-nine engravings, and hundreds of decorative vignettes, initials and finials. Skorina wrote twenty-five prefaces and twenty-four postfaces which were something more than mere commentaries on the text; they provided clear and topical interpretations of biblical allegories and parables. In this way Skorina introduced his readers to the humanist ideas of the great Renaissance thinkers.

The format adopted for his Bible was remarkably simple, with a clear and legible typeface. He avoided certain rarely-used characters and ligatures, and employed the minimum of diacritical marks to make reading easier. The layout was more functional than decorative, with illustrations closely linked to the text which they helped to clarify.

It is not surprising that Skorina's works were very popular, yet they shocked some Church dignitaries. He is thought to have been accused of heresy and obliged to leave Prague and go back to his own country. In Wilno (Vilnius), capital of the great principality of Lithuania, he set up a printing press (the first in what is now the USSR) in the house of a Byelorussian patron of the arts, and in 1522 published a computus, a set of tables for calculating movable dates in the ecclesiastical calendar, followed in 1525 by an edition of the *Acts of the Apostles*—his last known printed book.

In 1525, Skorina abruptly left Wilno and set out on a long journey from town to town and from patron to patron which eventually took him back to Prague, a city dear to his heart. He seems to have looked after the royal botanical garden there, one of the richest in Europe, but after the middle of the century all trace of him is lost. ■

M. BOTVINNIK, Soviet historian, is a researcher at the Institute of Arts, Ethnography and Folklore of the Academy of Sciences of the Byelorussian SSR. He is co-author of "Franciscus Skorina, Humanist, Civilizer and First Printer" (1989).

V. SHMATOV is a researcher at the Institute of Arts, Ethnography and Folklore of the Academy of Sciences of the Byelorussian SSR. He has published some 90 studies on the aesthetic aspects of Franciscus Skorina's publications and on Byelorussian graphic design of the 16th to 18th centuries.

From left to right: title page of the Russian Bible printed by Franciscus Skorina between 1517 and 1519, and illustrated pages from the Books of *Exodus*, *Genesis*, and *Kings*.

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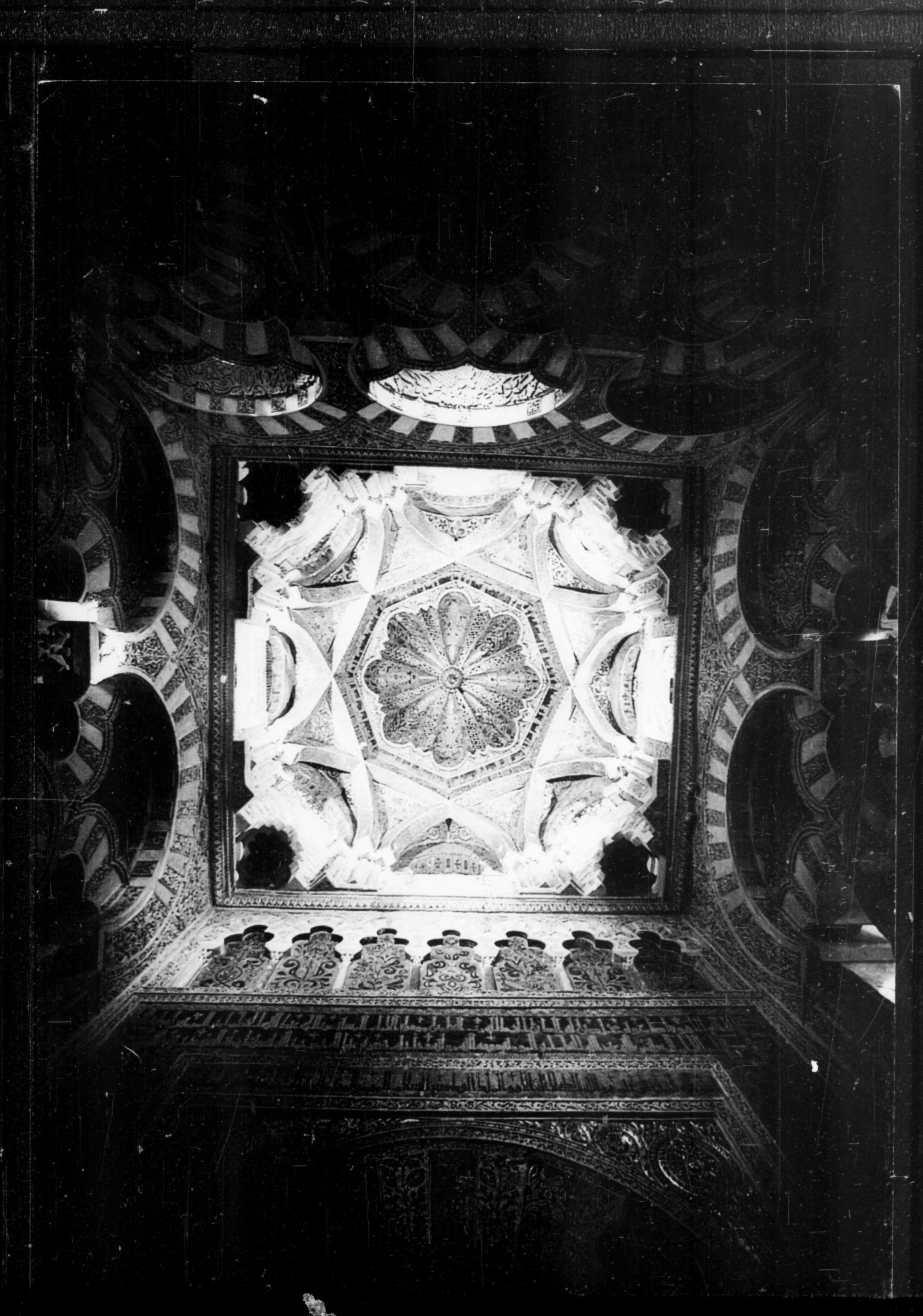
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